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ABSTRACT

The Tattletooth program is a new dental health curriculum in which the students learn in the classroom to care for their teeth through brushing, flossing, and proper diet; and they receive needed support and encouragement to form good dental habits from their parents, dentists, and from community groups. Classroom materials for the Tattletooth curriculum impart an activity-oriented, humorous, positive approach to the teaching of preventive dental care. Separate lesson plan kits have been developed for each of nine grade levels: kindergarten, six elementary grades, junior high school, and senior high school. Tattletooth consists of a number of components in addition to the curriculum package. This report makes six conclusions: (1) teacher training was satisfactory; (2) curriculum materials were generally successful, and educational progress was made in all grade levels; (3) in all cases the field test groups made better dental progress than the respective control groups; (4) teachers used the curriculum materials with their own augmentations; (5) teachers liked the program; and (6) much regional variability was found. Recommendations in keeping with theses conclusions are made. The report includes examination instruments, educational and dental procedural instructions, and educational statistics in appendices. (Author/RC)

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AN
EVALUATION REPORT
OF THE
TATTLETOOTH
DENTAL PROGRAM

(COVERING THE FIELD TEST PHASE, SECOND YEAR)

prepared by

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ABSTRACT

The TATTLETOOTH program is a new and unique dental health curriculum, which goes beyond the scope of most previous programs. Students learn in the classroom to care for their teeth through brushing, flossing, and proper diet; and they receive needed support and encouragement to form good dental habits from their parents, dentists, and from community groups. Characteristics of TATTLETOOTH make it an effective vehicle for improving dental health in students and in the community as a whole.

The idea for the program began in September 1973 with the organization by the Texas Dental Association of an Interdisciplinary Advisory Council of Dental Health. The curriculum was developed according to a systematic process of educational development which began with recognition and analysis of the needs. The field testing of the program in Spring 1976 included the involvement of more than 16,000 students from Kindergarten through High School and approximately 540 teachers across Texas. Earlier, the lesson plans were pilot tested twice in five regions of the state.

Classroom materials for the TATTLETOOTH curriculum, developed by teachers and curriculum specialists, impart an activity-oriented, humorous, positive approach to the teaching of preventive dental care for the benefit of the whole person. Separate lesson plan kits have been developed for each of nine grade levels: kindergarten, six elementary grades, junior high school, and senior high school. TATTLETOOTH consists of a number of components in addition to the curriculum package. They are to be used in training teachers, involving the dental and educational communities,

informing parents, and making the general public aware of the program and its aims. Formats of materials range from media releases and handouts for meetings to slide/tape presentations.

The report makes six conclusions: (1) teacher training was satisfactory; (2) curriculum materials were generally successful, and educational progress was made in all grade levels; (3) in all cases the field test groups made better dental progress than the respective control groups; (4) teachers used the curriculum materials with their own augmentations; (5) teachers liked the program; and (6) much regional variability was found. Recommendations in keeping with these conclusions are also made.

The report includes examination instruments, educational and dental procedural instructions, and educational statistics in appendices.

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1. INTRODUCTION

General

The TATTLETOOTH program is a new and unique dental health curriculum, which goes beyond the scope of most previous programs. In concentrates not only on the physical well-being of students, but seeks to help them develop in social and psychological areas such as self-concept, conscience, and independence. In addition, the program is community-based in order to effect lasting behavioral change. Students learn in the classroom to care for their teeth through brushing, flossing, and proper diet; and they receive needed support and encouragement to form good dental habits from their parents, dentists, and from community groups. Characteristics of TATTLETOOTH make it an effective vehicle for improving dental health in students and in the community as a whole.

The idea for the program began in September 1973 with the organization by the Texas Dental Association of an Interdisciplinary Advisory Council on Dental Health. The Advisory Council brought together representatives of the Texas Education Agency, Texas Department of Health Resources, and a number of professional dental organizations to develop a new dental health curriculum for Texas public school students in Kindergarten through Grade 12.

The curriculum was developed according to a systematic process of educational development which began with recognition and analysis of the needs. Building on this research base, an educational model was developed; the program was conceptualized; and materials were designed, tested, evaluated, revised, retested, reevaluated, and again revised. The tests were conducted in classrooms across the state, and feedback was systematically collected to insure an accurate assessment of the program's strengths and to identify those areas which needed revision.

The field testing of the program in Spring 1976 included the involvement of more than 16,000 students from Kindergarten through High School and approximately

540 teachers across Texas. Earlier, the lesson plans were pilot tested twice in five regions of the state.

Curriculum

Classroom materials for the TATTLETOOTH Curriculum, developed by teachers and curriculum specialists, impart an activity-oriented, humorous, positive approach to the teaching of preventive dental care for the benefit of the whole person. Separate lesson plan kits have been developed for each of nine grade levels: kindergarten, six elementary grades, junior high school, and senior high school. Each kit contains:

"People Facts" sheet explaining eight psychological and development traits the program seeks to enhance in each child

"Dental Facts" illustrating correct methods of brushing and flossing and the use of disclosing wafers; and other technical information

10 lesson plans, many with transparency masters

Kits include all the materials and instructions the teacher needs to present the lesson. Ease and simplicity of presentation on the teacher's part is a significant feature of the program.

Components

TATTLETOOTH consists of a number of components in addition to the curriculum package. In order for the whole community to be involved in support of a program like TATTLETOOTH, community members must be informed about the program in a systematic manner. The TATTLETOOTH program includes informational packages designed for specific groups. They are to be used in training teachers, involving the dental and educational communities, informing parents, and making the general public aware of the program and its aims. Formats of materials range from media releases and handouts for meetings to slide/tape presentations.

TATTLETOOTH COMPONENTS

Component	Contents	Description
A. Curriculum package	Lesson Plans: K-Grade 6 (7 kits) Jr. High (1 kit) Sr. High (1 kit)	Lesson plans include masters for worksheets and transparencies. Dental supplies are provided separately.
B. Inservice Teacher Training Package	Multimedia materials for teacher training workshop	Printed materials, audio tape, slide/tape presentation to orient teachers to program rationale, strategies, materials. Includes a complete Package A.
C. Program Overview/ Administrators' Brochure	Brochure ("TATTLETOOTH")	Brochure gives comprehensive information about TATTLETOOTH.
D. School Nurse Kit	Brochure ("Fairy Tooth Mother Needs Your Help") and Selected Lessons	Brochure describes role of school nurse and others in program. Selected lessons give sample of program materials.
E. Professional Awareness Kit	Overview Brochure ("TATTLETOOTH") and slide/tape presentation	Brochure gives comprehensive information about TATTLETOOTH. Slide/tape presentation is for use at dental organization meetings.
F. Public Awareness Kit	Flyer ("The TATTLETOOTH Story"); sample news releases; sample letter to parents; Public Service Announcement	Envelope-sized flyer gives basic information about program. News releases are to be localized and distributed to print and electronic media.
G. Dental Supplier's Letter	Letter	Informs pharmacies and other retail outlets about supplies needed for program so adequate stocks can be obtained and salespersons can be of assistance.

TATTLETOOTH COMPONENTS, continued

H. Composite Package	One of each of the above	For use in Dental Schools, Colleges of Education, and by Regional Coordinators.

Organization

The TATTLETOOTH program represents a joint effort of three state level organizations: The Texas Department of Health Resources, professional dental Associations, and the Texas Education Agency. Their activities are coordinated on the state level through the Interdisciplinary Advisory Committee of the Texas Dental Association, a committee comprised of representatives from each state organization and other professions.

The Texas Department of Health Resources was the recipient of the HEW grant that financed the development of the program. It coordinates the program through its 10 public health regions.

The Texas Education Agency has primary responsibility for the educational aspects of the program. Working through the 20 regional Educational Service Centers, the Agency alerts the educational community to the program and provides for the training of teachers and other school personnel who will work in its implementation. The Education Service Centers are the primary vehicles for teacher training in each area.

The third state organization involved in the program is the Texas Dental Association and other dental professional groups. The professional groups contribute the services of dentists and dental professionals in the regions to assist in education of inservice leaders in the dental content of the program. Such activities will be carried on through Regional Advisory Committees in each of the 20 educational regions in Texas. Each of the

10 public health regions will have two persons (20 in all--one for each Educational Region) who will coordinate activities and push for action and improvement. These will probably all be dental hygienists.

Chronicle

Because the curriculum required a pilot test as well as a field test during the same school year, the scheduling was tight. The pilot test was conducted during the fall of 1975, and the revisions were underway by December.

The curriculum materials were printed during January, and a leadership training conference for the Educational Service Center coordinators was held in mid-February. The coordinators were given all the needed materials for teachers, and each was asked to conduct an inservice teacher training session in his region in the following two weeks. The field test was scheduled for March and April, and the closing date for posttesting was 7 May.

An earlier orientation meeting of the Educational Service Center coordinators had taken place in October 1975, at which the time schedule and the field test objectives were discussed. Because of the relatively autonomous position of Educational Service Centers as well as the varying degree and manner in which each was participating, a central field test plan was not prepared. However, the coordinators were given guidelines and parameters so they could write their own plans. It is uncertain whether they all wrote plans; few were received centrally.

2. EVALUATION DESCRIPTION

Product Description

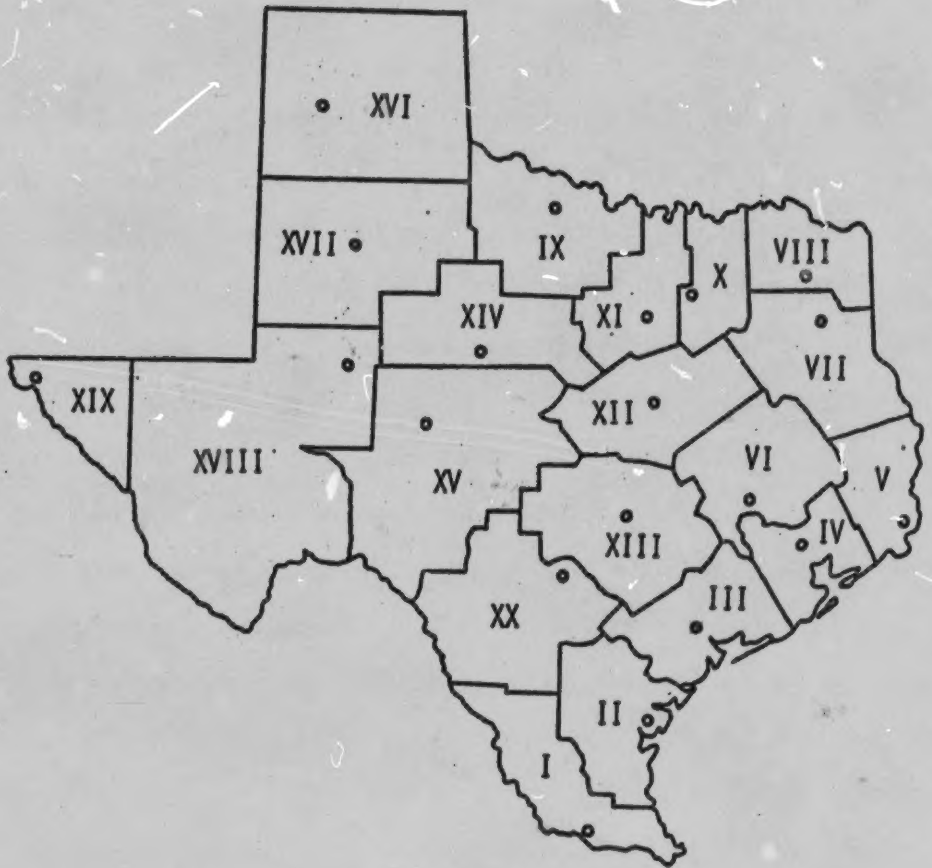
The TATTLETOOTH curriculum has been designed for nine levels of instruction: kindergarten, grades 1 through 6, junior high school, and senior high school. Each curriculum package comprises 10 lessons of instruction, a package of information called "People Facts," and "Dental Facts" which gives information about brushing, flossing, nutrition, and dental health in general. Many of the 10 lesson plans include original artwork for transparencies or spirit masters. These accompany suggestions for bulletin board displays, ideas for games, for role playing, and suggestions for several modes of instruction.

As itemized in the introduction, there are several other components of the program in addition to the curriculum, which are designed to orient and instruct specific groups about TATTLETOOTH and how they can fit into the program. A few of these packages were not prepared in time for the field test, but the most important ones were complete and they were used. Also, for the field test, each classroom was provided with dental materials, including a toothbrush for each child, disclosing wafers, and dental floss.

The Field Test

The state of Texas is divided into 20 Educational Regions, each with an Educational Service Center that functions as the hub. A diagram of the 20 regions is shown on page 7. These regions are semiautonomous in their educational authority, and although they receive some specific instructions and guidelines and a certain amount of funding from the Texas Education Agency, service center personnel are nevertheless permitted their own decisions on most subjects. Therefore, in the preparation of the field test, it was decided that representatives of each region should prepare their own field

REGIONAL EDUCATION SERVICE CENTERS


XVI
XVII
IX
VIII
X
XIV
XI
VII
XIX
XII
XVIII
VI
XV
V
IV
XIII
III
XX
II
I

REGION	HEADQUARTERS
I	Edinburg
II	Corpus Christi
III	Victoria
IV	Houston
V	Beaumont
VI	Huntsville
VII	Kilgore
VIII	Mount Pleasant
IX	Wichita Falls
X	Richardson
XI	Fort Worth
XII	Waco
XIII	Austin
XIV	Abilene
XV	San Angelo
XVI	Amarillo
XVII	Lubbock
XVIII	Midland
XIX	El Paso
XX	San Antonio

test plans based on a set of guidelines provided by the Department of Health Resources.

The field test was planned for March and April, 1976. To this end, a conference was held in October, 1975, for representatives/coordinators from each educational region, and for a few dentists. At the conference, considerable explanation was given about the program as a whole, and informational handouts were distributed. These described the program and regional authorities and responsibilities. One paper explained the field test purposes and outlined the schema for a field test plan. Goals and objectives of the TATTLETOOTH program were discussed, and the goals and objectives of field testing were identified. Another conference was held in February for the Regional Coordinators of the field test. The purpose of this conference was to provide leadership training so that the coordinators, in turn, could conduct teacher inservice training classes before the field test program started. At this mid-February session, each of the representatives was provided inservice training materials so that they could immediately undertake the teacher training in their own regions.

The teacher inservice training within each region was to take place during the two-week period following the leadership training conference, and the actual field test was scheduled to start on the first of March. There were to be educational and dental pretests given at the start of the program.

The scope of the field test was statewide; each region was given three sets of curriculum materials for each level of instruction. Since there are nine levels of instruction, the field test included 27 classrooms in each region. There are 20 regions and approximately 30 students per classroom; thus, the total involvement for the field test was in the order of 16,000 students. Each student was given an educational pretest and posttest, and 2,142 students would also get a dental examination twice.

For the dental checks, it was decided, because of limited resources, that oral hygiene evaluations would be performed in only seven of the twenty regions. In each of the seven regions, one participating classroom for each of the nine levels would be selected for evaluation. These classrooms would be matched as closely as possible with non-participating classrooms in the same schools, for control purposes. Seventeen students would be selected from each classroom by including every other name on the class roster. This would yield a sample of 153 subjects and 153 controls in each of the seven regions. Therefore, a total of 2,142 children would be selected for pretest and posttest examination by seven dental examiners.

Evaluation Design

An educational pretest and posttest was given to all children participating in the field test. These two tests were exactly the same, although the teachers did not know this in advance. The educational tests included both cognitive and affective factors in an effort to collect information in both of these areas, although they are not easily separable. Thus, an appropriate test was prepared for each of the nine levels of curriculum materials. The tests and the instructions that went with them are listed and displayed in Appendix A.

The dental portion of the field test would be conducted by seven teams headed by qualified dentists. Two sessions were held by the dentists for purposes of calibration. Detailed instructions were prepared for each member of the examination teams so that examination procedures would be uniform. (See Appendix E.) Each team consisted of a dentist, a dental hygienist, a recorder, and a "student coordinator". In addition, volunteers were recruited to help with the disclosing solution and rinse. The Patient

Hygiene Performance method (PHP) was selected as the test instrument. This Index is used to evaluate oral hygiene by comparing surfaces of six teeth. The teeth and surfaces involved are the facial surfaces of the upper right first molar, the upper right central incisor, the upper left first molar, and the lower left central incisor, and the lingual surfaces of the lower right and left first molars. The specified surface of each of these teeth is divided into five segments and each segment is scored 0 or 1 depending upon the nonpresence or presence of plaque on that particular segment. Therefore, each tooth receives five evaluations, This Index has been shown to be sensitive enough to detect changes in oral hygiene behavior. Presumably, if the TATTLETOOTH program had an impact on the child, he or she might have reduced the amount of plaque during that period. There was some skepticism as to whether the field test was of sufficient duration to allow a significant improvement during a two-month period.

So that each dentist would keep an even level of judgment as to the plaque measurement, each tenth child went through the examination process a second time, not in any given order, and a separate record was kept of the dentist's second reading. The hygienist or person who did the scoring was aware of when the child went for the second time, but the dentist was not. Further details about the dental process and scoring are included in Section 3c of this report.

An evaluation form prepared for teachers is in Appendix B. The teachers were asked to answer all the questions on a mark-sense sheet, and in addition, to add any comments they might like to make by writing on another sheet to be attached. Qualified educators and dental professionals made site visits to a number of classrooms during the field test, and information was obtained via an observation checklist. Also, a checklist for teacher interviews was developed. These checklists are shown in Appendix C.

As the field test ended, letters were sent to the coordinators at the Regional Educational Service Centers, to the site visitors, and to the dentists who had conducted the dental surveys. These persons were asked for their overall views (somewhat with hindsight). These letters are included in Appendix D.

In summary, it was felt that if there was a demonstrable change in the knowledge and attitude about dental hygiene, and if there was a change in the level of dental health and cleanliness by the children, and if, in fact, the control group remained unchanged during this period, then the program could be considered successful. It should be noted that although heavy emphasis necessarily was placed on the curriculum materials, strong consideration also was given to other components, so that the program as a whole was given appropriate consideration.

3. EVALUATION DATA

a. Inservice Training

The main sources of evaluation data for the field test inservice training efforts were the Teacher Evaluation Sheet (Appendix B), the Checklist for Teacher Interview (Appendix C), and communications from ESC coordinators and TEA observers. The inservice training approach and materials had been extensively evaluated during the pilot testing, and the importance of the training phase was thoroughly understood.

In the field test, as in the previous year's pilot, a training session for Regional Educational Service Center personnel and dentists was conducted in Austin. These trainers were then responsible for training the participating teachers in their respective regions. The large scale of the Austin training session, the limited time available, and the unexpectedly large volume of supplies and materials distributed at that session led to some frustration and confusion, but most problems were worked out satisfactorily through personal telephone contacts.

One expected source of confusion involved the evaluation procedure. Because of the sheer size of the sample, computer approaches were necessary, especially in the upper grades (where the students would be capable of using standard scanning sheets), and for teacher input. The necessity for pretest and posttest matching, both in the educational and dental aspects of the evaluation, together with privacy requirements, made a fairly complex code numbering system mandatory, and this led to many questions and problems. The tight field testing schedule necessitated a decision to handle all evaluation data gathering through the ESC coordinators, which placed a further burden on them and added to the possibilities of confusion in the original trainer-training session in Austin. It is fairly obvious that these particular problems were specific to the field test situation and would not occur in operational utilization of the Tattletooth program.

In the Teacher Evaluation Sheet, questions 17, 18, and 19 dealt with the inservice training the teachers themselves received. Question 17 dealt with the dental-technical portion of their training. Statewide, 68% of the responding teachers felt it was realistic and sufficient; 23% said it was not understandable; and 03% found it misleading. (06 % answered an "other" category, mostly to express a need for more information.)

Question 18 asked for opinions about the educational component. A total of 70% found it realistic and sufficient; and 20% said it was too sketchy; 02% felt it was not understandable; and 01% reported that it was misleading. (The "other" category was chosen by 07%).

Question 19 asked about the level of instruction in the inservice training, considering the grade taught. 52% stated that it was just right; 18 % found it too childish; 09 % felt it was too mature; and 02 % said it was too repetitious. (08 % chose the "other" response, mostly reporting a desire for separate training groups. Responses to these three questions, region-by-region, are depicted in Table 3a1.)

In the Checklist for Teacher Interview, the first four questions dealt with inservice training. Question 1 simply asked "Were you satisfied with the inservice training?" Of the 153 teachers interviewed, 88% answered "yes" while 12% answered "no." Question 4 asked whether the teacher, in view of the actual experience of implementing the curriculum program, found the inservice directions clear and adequate. Of the 146 teachers responding, 79% answered "yes," and 21% answered "no." These four questions are summarized in Table 3a2.

TABLE 3a1

RESPONSES TO QUESTIONS 17, 18, & 19
(TEACHER EVALUATION SHEET) BY REGION

n = 274

	17					18					19				
Region	*a	b	c	d	e	*a	b	c	d	e	*a	b	c	d	e
I	9	3	0	0	1	10	2	0	0	1	8	2	2	0	1
II	6	1	1	0	0	7	0	0	0	1	6	1	1	0	0
III	1	6	2	0	4	6	5	0	0	2	6	2	0	0	4
IV	21	5	0	0	0	22	3	0	0	1	16	6	1	0	3
V	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0
VI	10	4	1	0	2	14	2	0	0	1	13	2	1	0	1
VII	---------					---------					---------				
VIII	---------					---------					---------				
IX	9	4	0	0	1	10	2	1	0	1	6	4	2	1	1
X	2	0	0	0	1	2	0	0	0	1	2	0	1	0	0
XI	16	1	0	0	0	11	3	0	0	3	11	4	0	1	0
XII	10	5	1	0	0	9	3	3	1	0	9	2	3	0	2
XIII	8	5	0	0	4	5	6	0	0	6	8	7	1	1	0
XIV	14	2	0	0	0	15	1	0	0	0	13	2	1	0	0
XV	14	4	0	0	0	16	2	0	0	0	14	0	2	0	2
XVI	14	1	0	0	0	14	1	0	0	0	12	0	2	1	0
XVII	----------					----------					-----------				
XVIII	17	2	1	0	0	15	4	0	1	0	11	6	1	1	1
XIX	11	7	2	0	0	10	7	0	1	1	15	2	2	0	1
XX	14	8	1	0	2	13	10	0	0	1	11	6	4	0	5

*The "a" answer in each case is the "positive" choice.
All others are critical in some respect.

TABLE 3a2

STATEWIDE TOTALS FOR QUESTIONS 1 - 4
CHECKLIST FOR TEACHER INTERIVEW

(N = approx. 150)

1. Were you generally satisfied with the inservice training session?

	%
A. Yes.	88
B. No.	12

2. What was the strong point of the inservice training?

A. Organization	38
B. Presentations	43
C. Brevity	3
D. Discussion	11
E. Other	5

3. What was the weak point of the inservice training?

A. Organization	19
B. Presentations	14
C. Lengthiness	27
D. Foolish questions	9
E. Other (including lack of follow-up)	31

4. Now that you are implementing the curriculum program, and using hindsight, were the inservice directions clear and adequate?

A. Yes.	79
B. No.	21

At the close of the field test, the Regional Educational Service Center coordinators and TEA observers were asked to comment on the program by letter, and several excellent communications were received. One recurrent theme involved the importance of the inservice training to the acceptibility and success of the TATTLETOOTH program. A repeated suggestion was for a follow-up inservice after the program is started, because teachers "do not know enough to ask questions" during a single initial inservice training session.

Many Regional Service Centers routinely carry out evaluation of any training they present, and there is evidence (from comments and letters) that most reactions were favorable, though such data were not available for this field test. One comment that was made many times involved the timing of the inservice. The extremely crowded pilot-test-field-test-schedule, necessary under grant requirements, forced a "telescoping" of what should have been a year-long process into just four months, and many teachers and trainers mentioned the pressure of initial inservice followed immediately by implementation, with a rush to complete and evaluate.

b. Educational Progress

Pretests and posttests covering cognitive and affective areas were administered to all students in classrooms field-testing the program. For the early grades (K-3) it was necessary to use fairly simple tests that combined knowledge and attitude questions which, since no separate answer sheets were used, were scored by hand. For grades 4-12, answers were recorded on scannable answer sheets, and computer analysis was possible. However, it was desirable to compare results with those for lower grades, so a similar combined cognitive-affective score was used.

The design involved a pretest/posttest comparison of mean scores, by grade and by region, with a statewide summary by grade. Since the pretest and posttest were identical, the t-test formula for correlated means was used to test significance of the differences. Because of the difficulty of obtaining pretest/posttest correlation coefficients for grades K-3, a "low" estimated correlation coefficient of .60 was used for this correction, based on data from the higher grades. Though there are Regional and grade variations, most of the t-tests are significant, and the conclusion would be reached that the "difference" scores show real progress. The test instruments used in all grades are found in Appendix A, and it should be noted that item 12 (grades 2-12) and 14 (grades 3-12) were not scored. (The same test was used for both pretest and posttest, but teachers were not advised of this in advance.) Numbers of students taking the pretest and posttest differ slightly because of absences. The lower number was used to establish degrees of freedom for estimating significance of the t-test.

The statistical results, whether scored manually or by computer, are shown in the following tables:

APPENDIX F, TABLES XF1 - FX17 present the data by grade, by Regions I - VI, IX - XVI, and XVIII - XX. (Regions VII, VIII, and XVII did not participate.)

TABLE 3b1 is a statewide summary of the regions composited.

TABLE 3b2 is a statewide summary of significance estimates.

The results suggest that the TATTLETOOTH program can improve knowledge and attitudes about dental health. Though there are Regional variations, the educational aspect of the program appears to be effective in all grades from kindergarten to high school.

TABLE 3b1

STATEWIDE SUMMARY OF EDUCATIONAL PROGRESS

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	912	4.5908	1.5009	850	5.8459	1.4282	1.2551	28.776**
1	833	7.0143	2.4372	775	9.9652	2.4390	2.9509	38.782**
2	890	8.4168	2.5250	806	10.3660	2.3993	1.9492	26.076**
3	947	11.6881	3.7065	811	14.0371	3.3702	2.3490	22.256**
4	1099	11.8800	3.1194	985	13.4435	3.1741	1.5636	18.074**
5	1286	12.3344	3.2068	983	13.3804	3.1138	1.0460	12.470**
6	1086	11.6927	2.9553	851	13.6004	2.8840	1.9077	22.785**
Jr High	710	11.0959	2.7780	678	12.6594	2.8694	1.5635	16.472**
Sr High	465	11.1998	2.5003	283	12.5477	2.4512	1.3479	11.358**

Significance at 1% (.01) level = **

TABLE 3b2

SUMMARY OF EDUCATIONAL CRITERION DATA

Region	---Grade---								
	K	1	2	3	4	5	6	Jr Hi	Sr Hi
I	**	**	**	**	**	**	▓	**	
II	**		**	*	*	**	▓	▓	▓
III	**	**	**	**	**	*	**	*	▓
IV	**	**	**	**	**	**	**	**	**
V	▓	▓	▓	**	**	▓	▓	▓	▓
VI		**	**	**	*	**	▓	▓	▓
VII	//////	//////	//////	//////	//////	//////	//////	//////	//////
VIII	//////	//////	//////	//////	//////	//////	//////	//////	//////
IX	**		**			*	**	▓	▓
X	▓	▓	▓	▓	**		**	**	▓
XI	**	**	**	**		**	**	**	▓
XII	**	**	**	▓	**	*	▓	▓	**
XIII	**	**	**			**	**	**	**
XIV	**	**	**	**		*	**	▓	▓
XV	**	**	**	**	**		**	**	**
XVI	▓	▓	**	**	**	**	**	▓	▓
XVII	//////	//////	//////	//////	//////	//////	//////	//////	//////
XVIII	**	**	**	**	**	**	**		**
XIX	**	**	**		**	**	**	**	**
XX	**	**	**	*	**	*	**	**	▓
Statewide	**	**	**	**	**	**	**	**	**

Legend:

** = t ratio significant at the .01 level.
* = t ratio significant at the .05 level.
☐ = t ratio not significant at the .05 level.
▓ = t ratio not obtainable; lack of statistics.
////// = t ratio not obtainable; region did not participate.

c. Dental Progress

The evaluation design included dental pretests and posttests in seven regions, along with control group testing to check for possible bias. The test data were entered on scannable answer sheets, and the entire analysis was carried out by computer. A decision was made to derive plaque index scores for both the entire mouth and for specific groups of teeth and specific segments.

The control groups and the experimental groups were matched and were from same schools. The choice had to be made whether they could be from the same schools, even from the same localities. If their proximity is close, then the risk is present that the enthusiasm or know-how of the experimental group (including teachers) could rub off on the control group, and bias their measurements. Further, parents might complain if one child is in the program another is not.

On the other hand, if the groups are kept apart, the risk is run that the cultures would be dissimilar and that water flouridation would be different. Even worse, each dentist would always know which group he was examining, and the inevitable bias would enter.

It was decided to mix the control and experimental groups in a stream of children to the dental examination point, such that the recorder would know the difference, but the examiner would not. Students for each group were selected by taking alternate names from the class roster, and control children were mixed randomly with the field test children.

The objective was to examine 17 students in the experimental group and 17 students in the control group at each grade level in each of 7 regions. This totals 2142 students being examined, and they would get a prefield test examination and a posttest test examination at least seven weeks apart.

The dentists conducting the examinations are Public Health employees, each from a different Medical Region of Texas. Furthermore, each was assigned an examination location not in the region of his employment. The following table shows the dentists, their assignments for examinations in this field test, and data about the locale:

Table 3c1

Dental Examination Assignments

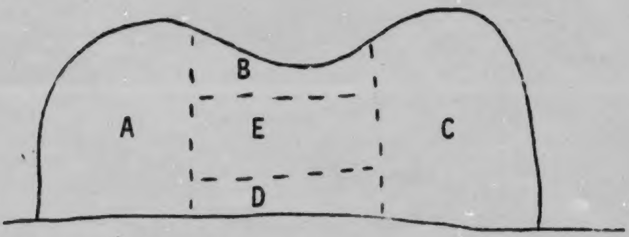
ESC Region	Dentist	Locality	ADA Gross Population	Description
II	Dr. Claude Haisley	Banquete, TX	572	Suburb of Corpus Christi; Rural--South Central
IV	Dr. Carlos Lozano	Fort Bend, TX	9,116	Surburban town adjacent to a major metropolitan; South East
XI	Dr. Lloyd Cole	Fort Worth, TX	2,915	Major metropolitan--North Central
XII	Dr. George Jurek	Temple, TX	7,169	Small metropolitan; Central
XIII	Dr. Bill Nail	Austin, TX	52,254	Major metropolitan; Central
XVIII	Dr. James Wade	Odessa, TX	20,731	Medium metropolitan--North West
XIX	Dr. Delane Ford	El Paso, TX	2,464	Surburban town adjacent to a major metropolitan; Rural--South West

As a validity check of dental accuracy, every 10th child was run through the line a second time. The recorder kept track of this, and the child's score was placed on the same marking sheet as his first examination. The dentist knew this process was in effect, but had no positive way of ascertaining which children were on the second run. Even if he recognized a child, he could not view his initial scoring. (With so many mouths to examine in short a time, he certainly could not remember scores.) Correlations between the examinations and re-examinations varied between .77 and .99, suggesting acceptable reliability of the procedure. It is believed that this process, more than just validation, serves to motivate dentists toward precise judgments.

Each dentist examined six teeth in each child's mouth:

#16 Upper Right First Molar--Facial Surface
#11 Upper Right Central Incisor--Facial Surface
#26 Upper Left First Molar--Lingual Surface
#36 Lower Left First Molar--Lingual Surface
#31 Lower Left Central Incisor--Facial Surface
#46 Lower Right First Molar--Lingual Surface

All examinations included the same teeth in the same order. Furthermore, each surface was mentally divided into five segments, and each segment was scored separately, as clean or dirty.



A = Distal (rearward) Surface
B = Occlusial (biteward) Surface
C = Mesial (frontward) Surface
D = Gingival (gumline) Surface
E = Central (mid) Surface

As each of five segments was scored on six teeth, a child could have as many as 30 marks for a very dirty set of teeth. The design for this test was adapted from an article in Public Health Reports, describing the Patient Hygiene Performance (PHP) method of dental evaluation.* Instruction sheets and methodology descriptions are contained in Appendix E.

The results of the total examinations, by Region by grade, are shown in Tables 3c2 through 3c8. Scrutiny of these tables indicates considerable variability, both among and within Regions, and it is obvious that in many cases, the examiners found teeth in worse condition at the close of the program. It should be noted, however, that in most cases the field test group shows either more improvement than the control group (41%) or less deterioration (16%). Also in many cases (22%) the control group scores are "worse," while the field test group scores show improvement. Overall, 79% of these differences would suggest a positive result for children experiencing the TATTLETOOTH curriculum, while 19% were unfavorable, and 2% showed no difference between the field test and control groups.

When all Regions were combined, every grade total shows a difference between the field test and control groups that indicates superior results with TATTLETOOTH. These data are found in Table 3c9. When all grades and all Regions are combined, as in Table 3c10, both field test and control groups show improvement, but the children that were exposed to the TATTLETOOTH

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*Podshadley, A.G., and John V. Haley. "A Method for Evaluating Oral Hygiene Performance." Public Health Reports, Vol. 83 No. 3, March 1968. 259-264.

TABLE 3c2

ESC REGION II

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	14	15.786	5.221	14	13.000	4.350	2.786
	control	14	20.286	3.539	13	22.539	2.905	-2.653
1	field test	18	20.278	3.375	16	19.625	3.030	.653
	control	11	18.182	4.378	11	20.364	3.264	-2.182
2	field test	15	21.667	3.519	16	20.250	3.000	1.417
	control	17	21.529	2.453	17	21.706	2.312	-.177
3	field test	16	18.188	4.385	16	18.125	3.519	.063
	control	13	17.231	3.419	13	17.385	3.355	-.154
4	field test	13	21.769	1.787	13	19.769	2.651	2.000
	control	12	18.417	3.777	12	21.250	2.491	-2.833
5	field test	14	17.000	2.828	14	18.500	2.767	-1.500
	control	13	19.923	2.253	13	21.539	2.757	-1.616
6	field test	2	19.000	1.414	12	16.250	4.454	2.750
	control	10	20.800	3.048	10	19.400	3.688	1.400
Jr. High	field test	18	16.222	4.237	21	14.143	3.651	2.079
	control	21	18.524	3.156	21	16.667	3.979	1.857
Sr. High	field test	0			0			
	control	0			0			

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c3

ESC REGION IV

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	15	23.400	3.757	13	26.000	2.381	—2.600
	control	17	22.529	4.390	16	25.563	3.651	—3.034
1	field test	16	24.313	2.522	16	20.000	4.719	4.313
	control	17	25.529	4.964	17	26.529	3.204	—1.000
2	field test	16	25.000	4.131	16	24.750	4.008	.250
	control	13	25.923	2.139	14	26.357	2.469	—.434
3	field test	16	25.938	2.435	16	26.938	2.645	—.1000
	control	14	24.786	3.512	16	24.563	3.614	.223
4	field test	15	24.000	5.642	16	20.813	3.903	3.587
	control	16	23.813	4.370	16	21.875	5.655	1.938
5	field test	16	22.500	5.514	17	20.706	5.987	1.974
	control	11	22.273	4.052	13	23.615	3.477	—1.342
6	field test	24	21.958	6.245	24	22.792	5.868	—.834
	control	10	20.000	4.346	10	24.000	3.266	—4.000
Jr. High	field test	7	15.571	5.381	7	14.429	5.996	1.142
	control	22	21.182	5.333	22	22.318	4.225	—1.136
Sr. High	field test	0			0			
	control	0			0			

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c4

ESC REGION XI

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	18	17.389	5.543	18	20.056	2.235	—2.667
	control	13	19.692	7.376	11	19.909	2.212	—.217
1	field test	16	21.688	2.089	14	21.143	2.476	.545
	control	16	20.125	4.209	16	21.938	1.843	—1.813
2	field test	13	19.857	2.685	15	20.733	2.282	—.876
	control	18	20.333	2.679	18	21.222	2.130	—.889
3	field test	15	20.133	2.800	15	20.333	1.800	—.200
	control	15	19.800	3.144	14	20.071	1.979	—.271
4	field test	14	21.286	2.432	14	20.071	1.328	1.215
	control	12	20.750	3.306	12	19.917	1.621	.833
5	field test	15	18.733	3.826	15	18.967	2.296	—.034
	control	14	20.571	1.950	14	20.214	1.369	.357
6	field test	17	18.706	4.085	17	18.941	5.285	—.235
	control	16	19.625	2.986	16	19.938	1.731	—.313
Jr. High	field test	12	16.833	5.132	12	18.583	2.968	—1.750
	control	12	19.250	3.621	12	19.583	1.730	—.333
Sr. High	field test	0			0			
	control	0			0			

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c5

ESC REGION XII

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	19	23.526	2.245	17	17.706	3.771	5.820
	control	13	24.154	2.410	14	19.857	2.656	4.297
1	field test	14	25.000	1.961	15	19.867	2.875	5.133
	control	16	24.375	2.247	16	20.188	3.125	4.187
2	field test	14	25.357	2.405	14	17.143	3.302	8.214
	control	16	24.063	2.516	18	20.667	2.352	3.396
3	field test	12	21.833	2.918	13	15.462	3.821	6.371
	control	12	23.500	1.314	14	18.357	3.692	5.143
4	field test	14	22.071	3.050	18	19.167	2.256	2.904
	control	14	21.857	1.460	17	19.353	2.262	2.904
5	field test	13	23.308	3.706	15	18.800	1.897	4.508
	control	18	23.444	2.812	18	17.944	3.702	5.500
6	field test	0			0			
	control	0			0			
Jr. High	field test	0			0			
	control	0			0			
Sr. High	field test	14	19.071	1.542	15	11.533	5.317	7.538
	control	17	17.706	5.096	17	13.412	5.280	4.294

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c6

ESC REGION XIII

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	12	16.167	5.734	12	13.333	5.033	2.834
	control	15	19.733	4.496	15	14.467	3.907	5.266
1	field test	13	22.462	5.440	13	16.462	5.681	6.000
	control	15	23.267	3.494	15	17.367	4.764	5.800
2	field test	12	21.833	3.380	12	14.583	5.900	7.250
	control	14	21.714	4.615	14	16.643	3.128	5.071
3	field test	16	20.750	5.158	16	13.813	3.291	6.937
	control	15	21.733	4.251	15	16.467	5,553	5.266
4	field test	15	21.400	3.738	15	13.400	5.523	8.000
	control	16	21.500	4.472	17	14.765	5.081	6.735
5	field test	13	21.000	3.979	13	12.539	3.231	8.461
	control	16	21.438	3.183	16	14.750	4.450	6.688
6	field test	17	18.412	4.487	17	8,765	4.698	9.647
	control	18	19.000	4.284	18	11.333	6.315	7.667
Jr. High	field test	29	12.379	3.698	29	9.138	4.307	3.241
	control	18	14.000	4.187	18	8.111	3.288	5.889
Sr. High	field test	14	12.643	4.272	14	4.929	3.792	7.714
	control	18	13.333	4.589	18	5.778	2.901	7.555

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c7

ESC REGION XVIII

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	20	21.150	4.246	20	21.400	3.267	-0.250
	control	17	23.353	3.535	15	22.467	3.461	0.886
1	field test	17	23.000	4.555	17	19.765	3.734	3.235
	control	17	24.941	2.657	14	23.714	4.445	1.227
2	field test	18	22.944	3.572	16	20.875	4.193	2.069
	control	15	24.867	3.044	14	23.357	4.733	1.510
3	field test	19	24.053	2.094	17	20.941	4.493	3.112
	control	17	21.412	3.537	16	20.875	4.349	0.537
4	field test	15	19.400	4.290	14	13.286	5.341	6.114
	control	20	17.650	4.171	19	20.263	4.228	-2.613
5	field test	19	20.211	3.691	18	14.722	6.596	5.489
	control	15	19.667	3.658	15	17.533	3.226	2.134
6	field test	19	19.895	4.713	17	16.000	5.489	3.895
	control	15	20.800	3.932	15	19.800	4.570	1.000
Jr. High	field test	18	20.889	4.057	17	19.647	3.427	1.242
	control	18	18.444	3.745	17	17.294	4.661	1.150
Sr. High	field test	15	16.200	4.229	15	15.400	5.779	0.800
	control	13	15.846	3.693	11	11.546	6.455	4.300

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c8

ESC REGION XIX

Grade		Dental Criterion						
		Pretest			Posttest			Difference between means
		N	Mean	Standard Deviation	N	Mean	Standard Deviation	
K	field test	14	11.571	4.090	13	15.231	5.689	—3.660
	control	9	10.111	7.623	8	22.000	3.295	—12.111
1	field test	14	18.071	2.759	15	19.467	3.583	—1.396
	control	12	14.833	5.441	13	16.846	5.490	—2.013
2	field test	15	18.333	4.220	15	20.133	3.889	—1.800
	control	13	17.385	3.548	14	20.786	5.366	—3.401
3	field test	12	16.833	3.563	12	14.917	6.022	1.916
	control	13	16.923	5.107	14	17.214	4.003	—.291
4	field test	15	16.133	4.155	15	18.467	3.998	—2.334
	control	16	15.063	5.591	16	17.625	7.411	—2.562
5	field test	15	15.200	4.004	15	13.733	5.994	1.467
	control	14	14.429	3.715	14	17.571	4.895	—3.142
6	field test	13	10.462	3.550	13	7.923	5.188	2.539
	control	16	11.438	3.949	16	10.250	4.597	1.188
Jr. High	field test	16	13.563	5.099	17	10.412	5.734	3.151
	control	14	12.143	4.435	15	11.933	3.973	.210
Sr. High	field test	13	11.923	3.639	13	8.615	5.108	3.308
	control	13	15.769	4.850	14	10.286	5.136	5.483

Note: A negative entry in the "difference between means" column indicates a decline in dental hygiene; a positive entry indicates improvement. A diminishing score means less plaque and therefore improvement.

TABLE 3c9

STATEWIDE COMPARISON SUMMARY OF DENTAL EXAMINATIONS

(Showing pretest and posttest scorings,
for all 7 Educational Regions, by grade)

Grade	Field Test Group					Control Group					Improvement of Field Test Group over Control Group
	Pretest		Posttest		Difference in Means	Pretest		Posttest		Difference in means	
	N	Means	N	Means		N	Means	N	Means		
K	112	18.848	107	18.393	0.455	98	20.623	92	20.967	-0.344	0.799
1	108	22.102	106	19.528	2.574	104	22.087	102	24.627	-2.540	5.114
2	103	22.214	104	20.019	2.195	106	22.236	109	21.495	0.741	1.454
3	106	21.330	105	18.524	2.806	99	20.808	102	19.402	1.406	1.340
4	101	20.832	105	17.905	2.927	106	19.764	109	19.183	0.581	2.346
5	105	19.686	107	17.869	1.800	101	20.336	103	18.816	1.520	0.280
6	92	18.587	100	15.880	2.707	85	18.341	85	16.694	1.647	1.060
Jr Hi	100	15.550	123	11.358	4.192	105	18.219	105	16.143	2.076	2.116
Sr Hi	56	15.036	57	10.263	4.773	61	13.967	60	10.050	3.917	0.856

TABLE 3c10

STATEWIDE SUMMARY OF DENTAL PROGRESS

Dental Criterion					
All grades All 7 regions	Pretest		Posttest		Difference between means
	N	Mean	N	Mean	
Field Test Group	884	19.6278	894	17.1846	2.4432
Control Group	862	20.0557	867	18.6367	1.4190

approach improved more.

Because incisors undergo a different regimen in both eating and brushing, a further study involved consideration of these teeth (numbers 11 and 31) separately from all others. Also, since the "E," or center, segment is most easily cleaned by a novice toothbrusher, it was felt that slight progress would show more clearly if it were handled separately. Thus an analysis of covariance was carried out in which the main effect involved the difference between the field test and control groups on the posttest, with the pretest difference treated as the covariable. (This was necessary because, in many cases, there were differences between the experimental and control groups found in the pretest--differences which were completely unplanned and unforeseen, but which were significant. The analysis of covariance procedure corrects for these differences.)

Table 3c11 shows f-ratios, by grade, which indicate the significance of differences between field test and control group posttest scores (with pretest differences held constant) for

(1) the total group of teeth and segments examined;
(2) the E-segment only;
(3) tooth #11 only;
(4) tooth #31 only; and
(5) a combination "incisor" score for #11 plus #31.

The values in this analysis suggest that both total scores and the "incisors" scores show significant improvements, but that dental progress in the higher grades (junior and senior high schools) was more the exception than the rule, and that most cleaner mouths were found at the fifth grade or below. The E-segments were generally not significantly better for the field test group than for the control group.

TABLE 3c11

STATEWIDE DENTAL EXAMINATION:

ANALYSIS OF COVARIANCE RESULTS, BY GRADE

(Main effect: experimental vs.
control posttest scores
Covariate: Pretest scores)

		---- F Ratios ----				
Grade	N	Total Score	Total, E-surfaces	Tooth #11	Tooth #31	Both Incisors (Tooth #11 & Tooth #31)
K	184	5.932*	1.899	2.975	8.486**	7.097**
1	202	9.876**	4.500*	18.516**	1.685	9.941**
2	199	7.937*	5.180*	11.823**	4.659*	10.244**
3	198	1.710	1.338	1.425	.886	1.485
4	199	6.879**	2.426	4.232*	4.298*	5.356*
5	202	6.484**	3.105	3.011	5.028*	5.263*
6	172	1.193	.170	1.194	.006	.472
Jr Hi	199	2.405	2.842	2.254	4.820*	3.942*
Sr Hi	114	.326	.407	.022	.000	.008

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

d. Site Visits

An important aspect of the evaluation involved visits by education consultants who had served as leaders of the curriculum writing teams and Texas Education Agency consultants as observers to classrooms participating in the field test. This step was seen as essential, because experience during the previous year's pilot testing phase strongly indicated that observation both provided useful insights for improving the materials and presented a viewpoint slightly different from teacher reports.

Eight observers who were thoroughly familiar with the philosophy and development of the TATTLETOOTH program carried out site visits, covering the Regions active in the field test. These observers, and the Regions they worked with, are presented in Table 3d1, as follows,

TABLE 3d1

OBSERVERS FOR THE
TATTLETOOTH PROGRAM

	Region(s)
Cheryl Aiello	III
Dr. Ruth Cady	VI, XII
Glen French	XVIII
Dr. Brian Gray	IX, X
Dr. Robert Hurley	IV, V
Dr. Don Merki	XI, XIV
Ewell Sessom	I, II, XIII, XV, XIX, XX
Libby Vernon	XVI

A brief eight-item check list was provided, and most of the observers used these instruments for their report (Appendix C, Checklist for Classroom Observation). The statewide results, covering approximately 120 classrooms, are summarized in Table 3d2.

These data indicate that, for the most part, the participating teachers were applying the model conscientiously, but that most of them slightly modified the materials, which was an option offered. These materials, as provided or modified, were used successfully and smoothly in a majority of cases, but about one-third of the results were less than completely satisfactory. The students evidently participated actively in most of the classrooms visited, and their attitudes were strongly positive. The prevailing classroom atmosphere was "interesting and keen," and teacher attitudes were enthusiastic and supportive. Ninety percent of the observations found the objectives of the lesson plan either wholly or nearly all met.

These data suggest that the TATTLETOOTH program, at least from the point of view of individual classroom involvement, was given a field test that was largely appropriate and fair. There were exceptions, of course, and indications of non-standard applications of the model will be discussed in Section 3f.

TABLE 3d2

STATEWIDE TOTALS
SITE VISIT OBSERVATIONS

TATTLETOOTH
Checklist for Observation of Classrooms

	Statewide Totals
1. Were students actively involved in the Tattletooth lesson?	
A. All participating actively.	72%
B. Some involved; others bystanding.	14
C. Children involved only in response to teacher.	11
D. Teacher doing the whole thing.	1
E. It was difficult to relate the classroom activity to Tattletooth.	2
2. The teacher was using the prepared materials and using them with what success?	
A. Everything fell into place and worked out right.	57%
B. Mostly good - but a few turkeys.	25
C. Moderate success.	13
D. Teacher wasn't using the materials well and was having trouble.	5
E. Teacher did very well; materials were faulty.	0
3. The teacher was given the option of using the materials as prepared, or she could modify them as she chose. She:	
A. was using them exactly as designed.	16%
B. used the materials with slight changes.	76
C. found it necessary or desirable to change most of them.	3
D. changes them completely.	2
E. obviously was not prepared, and wasn't sure of what she was doing.	3
4. The teacher was applying the model (using the lesson plan) in teaching the less.	
A. Yes.	74%
B. No.	5
C. Partially, and with good reason.	16
D. Partially, but willy-nilly.	4
E. Not observed.	1
5. To what extent were the objectives of that particular lesson plan met?	
A. Wholly.	36%
B. Nearly all.	53
C. Slightly.	6
D. Couldn't see any closure.	4
E. Not observed.	1
6. What was the teacher's attitude toward the lesson during the class?	
A. Enthusiastic and supportive	75%
B. Positive but halfhearted	20
C. Indifferent	3
D. Mildly negative or condescending	2
E. Opposed and destructive	0

7. What was the collective attitude of the students?

A. Joyous and receptive.	65%
B. Accepting and passive.	23
C. Similar to other routines.	11
D. Hostile.	0
E. Bewildered.	1

8. What was the atmosphere in the classroom?

A. Warm, zealous, and electrifying.	20%
B. Interesting, keen.	67
C. Mediocre, usual.	10
D. Hum-drum, dull.	2
E. Boredom.	1

e. Teacher Opinions

The evaluation design sought teacher input in two ways. First, the site visits included a teacher interview (Checklist for Teacher Interview, Appendix C), and second, the Teacher Evaluation Sheet (Appendix B) was made available to each teacher using the curriculum during the Field Test phase. Items 1-4 in the Interview Checklist involved inservice training and are covered in section 3a of this report. The remaining questions involved teacher attitudes and opinions about their experience with the program, including, especially, evaluation of support from various dental and community sources. The statewide responses to questions are reported in Table 3e1.

Probably the most meaningful results here involve the answers to questions 11 and 12. Question 12 simply asked whether the teacher would voluntarily use the program material again next year. The response was overwhelmingly positive, with 92% answering "yes," less than 3% answering "no" and about 5% feeling that it is too early to tell. Question 11 asked for an over-all attitude about the program--"How do you feel about the TATTLETOOTH Program at this point?" Approximately 45% said "extremely good," 51% said "okay, but it has gaps," about 3% said it was "just like any other program," and only 1% said they had "seen many better dental programs." These answers show excellent teacher acceptance of the program materials and philosophy.

The questions involving support from other groups suggest that, from administration, dentists, ESC personnel, and school nurses, the support received was generally "good." PTA support was mostly non-existent, though many teachers personally reported considerable interest on the part of individual parents.

Responses to the Teacher Evaluation Sheet were tabulated by computer, since they were entered on scannable answer sheets. Statewide results are reported in Table 3e2.

The responses suggest that the lesson plans were mostly used in regular classrooms, though a significant percent were used in health classes (in the higher grades). Relatively few teachers asked for help from dentists only, but many requested help from other teachers, aides, school nurses, and dental hygienists, and 35 used more than one resource. Forty percent of the teachers used all ten lesson plans provided, while smaller percentages (20% or less) used only part of the program. The large majority (85%) received their dental materials on time, and no teacher was left completely without such materials.

A majority of teachers (67-78%) reported receiving sufficient support from the lesson plans, inservice training, the dental community, the reference material, and the educational structure, but only 58% received actual help with demonstrating brushing and flossing. A substantial number (75%) used disclosing wafers at least once, but only 37% used them more than once. Most classes in the program (62%) brushed and flossed two weeks or more, but 16% did not brush or floss at all, and 22% only once. Most teachers felt that dental problems were "about normal" in their classes; 19% felt they were "widespread and severe"; while none felt they were "non-existent."

A slight plurality (34%) of participating teachers had taught similar dental health programs several times before, and a majority (58%) had taught at least one such unit; however, 27% had never taught any dental health program previously. Most teachers (83%) reported at least slight improvements in dental behavior and attitudes in their classes because of TATTLETOOTH and 10% noted "drastic improvements." However, 12% thought things were "worse than before."

Visual aids were approved and used by a slim majority (61%), but about 26% could not get transparencies, though they would like to have used them.

Most teachers found the program well conceived and structured, deserving of the time it took, neither too complex nor embarrassing to teach, fairly complete, and at an appropriate level. (Of course there were expressions contrary to these, especially in answer to question 24, where 42% said the program has several gaps.)

A majority felt that the program could succeed with the present amount of dental participation, but 25% felt that more dental involvement is necessary for success. The teachers overwhelmingly (85%) expressed the opinion that parental participation is extremely important for lasting impact in a program like this.

Most found both the instructions and the time allowed in the field to be sufficient. Finally, only 16% had ideas for improvement, but these were extremely useful and were made available to the program developers.

TABLE 3e1

TATTLETOOTH

Checklist for Teacher Interview

	Statewide Totals
1. Were you generally satisfied with the inservice training session?	
A - Yes	88%
B - No	12
C, D, E - (Unused)	
2. What was the strong point of the inservice training?	
A - Organization	38%
B - Presentations	43
C - Brevity	3
D - Discussion	11
E - Other	5
3. What was the weak point of the inservice training?	
A - Organization	19%
B - Presentations	14
C - Lengthiness	27
D - Foolish questions	9
E - Other	31
4. Now that you are implementing the curriculum program, and using hindsight, were the inservice directions clear and adequate?	
A - Yes	79%
B - No	21
C, D, E - (Unused)	
5. In carrying out the program, how do you evaluate cooperation and support from the school administration?	
A - Terrific	42%
B - Good	36
C - So-so	8
D - Very little	1
E - Absent	1
6. In carrying out the program, how do you evaluate cooperation and support from the school nurse?	
A - Terrific	22%
B - Good	36
C - So-so	9
D - Very little	8
E - Absent	25
7. In carrying out the program, how do you evaluate cooperation and support from the P.T.A.?	
A - Terrific	4%
B - Good	11
C - So-so	5
D - Very little	11
E - Absent	69

8. In carrying out the program, how do you evaluate cooperation and support from the educational service center?

A - Terrific	29%
B - Good	37
C - So-so	19
D - Very little	9
E - Absent	7

9. In carrying out the program, how do you evaluate cooperation and support from the dental community?

A - Terrific	17%
B - Good	41
C - So-so	12
D - Very little	9
E - Absent	20

the
10. Everything considered, describe/total educational, dental, and community support for your program:

A - Almost too much	3%
B - Very fine	45
C - Some -- from the usual quarter	35
D - Not enough	10
E - What support?	7

11. How do you feel about the Tattletooth program at this point?

A - Extremely good	45%
B - It's okay, but has gaps	52
C - It's just like any other program	2
D - I've seen many better dental programs	1
E - I hate it	0

12. If the materials are available again next year, and if it were your choice, would you voluntarily use the program again next year?

A - Yes	92%
B - No	3
C - Too early to tell	5
D, E - (Unused)	

TABLE 3e2

TATTLETOOTH FIELD TEST EVALUATION SHEET

1. Did you use the Tattletooth Lesson Plans?

		Statewide Totals
A.	In a regular classroom activity.	53%
B.	In a special subject class.	17
C.	Combined with another class.	4
D.	In a health class.	22
E.	Other.	3

2. Did you ask for help from any of the following (if none, do not answer this question)?

A.	Another teacher or aide.	32%
B.	School nurse.	20
C.	A dentist.	6
D.	A dental hygientist.	15
E.	More than one of the above.	27

3. How many lesson plans did you use?

A.	Five or less.	14%
B.	Six or seven.	20
C.	Eight.	14
D.	Nine.	12
E.	All ten.	40

4. Did you receive the dental materials?

A.	Yes, on time.	85%
B.	Yes, but very late.	8
C.	Yes, but insufficient. (Everyone was short disclosing wafers, so please do not consider them.)	5
D.	No, we did a scrounge job.	2
E.	No, we had nothing to work with.	0

Items 5, 6, 7, 8, and 9. In using these lessons, did you feel that you generally had adequate support

5. In the lesson plans and materials as provided?

A.	Yes.	77%
B.	No.	23

6. In the inservice training session?

A.	Yes.	75%
B.	No.	25

7. From the local dental community?

A.	Yes.	67%
B.	No.	33

TABLE 3e2
(cont.)

8. From the reference material?

A.	Yes.	78%
B.	No.	22

9. From the educational structure? (School, district, service center, TEA).

A.	Yes.	74%
B.	No.	26

10. Did you receive any help in the demonstration of brushing and flossing?

A.	Yes.	58%
B.	No.	42

11. Did your class use disclosing wafers in the classroom?

A.	No.	25%
B.	Yes, once.	38
C.	Yes, two to four times.	28
D.	Yes, five to seven times.	6
E.	Yes, eight or more times.	3

12. Did your class actually brush and floss in the classroom?

A.	No.	16%
B.	Yes, once.	22
C.	Yes, two or three weeks.	36
D.	Yes, four or five weeks.	16
E.	Yes, six or more weeks.	10

13. Do you feel that the dental problems in your class (or classes) are

A.	Widespread and severe?	19%
B.	About normal?	76
C.	Rare?	2
D.	Non-existent?	0
E.	Don't know?	3

14. Which of the following is true for you?

A.	I have taught a separate dental unit involving brushing and flossing at least once before Tattletooth.	8%
B.	I have taught a separate dental unit involving brushing and flossing more than once before Tattletooth.	7
C.	I have taught a dental health unit that was part of a total health curriculum at least once before Tattletooth.	24
D.	I have taught a dental health unit that was part of a total health curriculum more than once before Tattletooth.	34
E.	I have never taught any dental health unit before Tattletooth.	27

TABLE 3e2

(cont)

15. How would you value the changes in dental health or in attitudes about dental health that the Tattletooth program has made in your class?

A.	Drastic improvements.	10%
B.	Slight changes, all good ones.	73
C.	No changes whatsoever.	5
D.	Negative resutls, and things are worse than before.	0
E.	The time has been too short for any changes to appear.	12

16. Please select the one of the following statements that is closest to your feelings:

A.	I like visual aids and was able to use them to the maximum extent.	61%
B.	I like visual aids but was unable to get transparencies made.	26
C.	My use of visual aids is limited because I cannot get an overhead projector.	6
D.	I don't think visual aids are needed in Tattletooth.	5
E.	I prefer to use a curriculum that doesn't use or need visual aids.	2

17.
18. } see table 3a1
19

Please answer the next 11 questions with a yes or no, indicating in each case your overall opinions about the Tattletooth program:

20. The program is well conceived and structured.

A.	Yes.	81%
B.	No.	19

21. It requires too much time on this subject.

A.	Yes.	26%
B.	No.	74

22. It is a necessary course, but is too complicated.

A.	Yes.	9%
B.	No.	91

23. I found it embarrassing to teach.

A.	Yes.	3%
B.	No.	97

24. The program has several gaps.

A.	Yes.	42%
B.	No.	58

TABLE 3e2

(cont)

25. I like the approach but the materials are at the wrong level for my children.

A.	Yes.	29%
B.	No.	71

26. This program could be successful only if dentists participated more.

A.	Yes.	25%
B.	No.	75

27. I think parental participation is extremely important for lasting impact in a program like this.

A.	Yes.	88%
B.	No.	12

28. Instructions were too vague.

A.	Yes.	22%
B.	No.	78

29. I think that the program needs more time than the field test allowed.

A.	Yes.	37%
B.	No.	63

30. I have several ideas for improvement and have attached a sheet with my comments to the answer sheet.

A.	Yes.	16%
B.	No	84

There were 274 responses to the teacher evaluation form, although not every teacher answered every question. In fact, there were some missing answers to every question. The fewest "omits" was 3--this occurred in questions 4, 11, and 13. The greatest number of missing answers came, expectedly, in question #2, wherein 146 teachers (53%) indicated no help was sought by not answering at all; otherwise 39 answers were missing from question #30. The percentages shown should add to 100% for each question, representing the total of actual answers in each case.

f. Regional Variations

The obvious differences in educational and dental progress can readily be seen in Tables 3c2-3c11 and in XF1-XF17, as well as in 3b1 and 3b2. One must constantly keep in mind that both types of examinations are quite subjective: the educational portion is subject to differences in number of lessons presented, teacher enthusiasm, funds for "goodies," and availability of technical support. Dental examinations are subject to individual dentist variances or changes, or to changes in local conditions (extensive efforts were made to eliminate differences between dentists by standardization and calibration.) Differences between dentists tend to cancel out because personal characteristics would appear in both pretest and posttest, but there are variations in consistency (and thus reliability). Caution must be used in trying to compare regions, or grades, or classrooms, whether in dental or educational progress. Each of the following paragraphs describes some situation which might underlie differences between regions.

Each of the Directors of the Educational Service Centers decided on his own just how much to participate in and support this non-reimbursable field test. Value judgments vary, and thus the ESC coordinators varied from a full time person to no participation at all, with the full spectrum covered in between. (From a field test point of view such a set of conditions is excellent; if a product can accomplish its objectives under various conditions from full time handholding to indifferent neglect, then it shows excellent promise as a self-starter.)

A few regions were able to get all the classrooms that the test had proposed--three full classes at each of nine levels (about 800 students). Many were unable to get the full quota for reasons of time, money, personality, or non-cooperation. Some felt it was better to try to do a fair job with fewer classrooms than to get (what in their case would be) overextended.

Some regions took the "systems" approach, and went all-out to get many agencies, organizations, people and facilities involved, to maximize the opportunity for improved dental health. Other regions left it all up to the teachers, who had a very difficult task even under the best of conditions. With little time for preparation, and insufficient time and funds for the field test, teachers had every right to be chagrined when no one helped out.

A sample scanning sheet was sent to each teacher with certain entries made as examples, including where to write the child's number code. A few teachers used the same sample code number for their whole classes! Others did not received the answer sheet for filling out the Teacher Evaluation Questions; these unfortunates fell into two groups, one that answered on the question form (and we manually filled out the scanning sheet), and the other group that gave up in frustration and sent nothing.

In spite of explicit instructions, some teachers did not give the pretests, and others omitted the posttests. Still others composed their own tests; no doubt these served some particular purpose, but not TATTLETOOTH or its field test.

Several teachers did not use the model designed for the curriculum. Reasons for this are not too clear. Knowledge of this situation came from site visitors rather than from the teachers themselves, so it cannot be considered complete. Eventually, it would be desirable to establish the relative amount of improvement achieved by the model-followers as compared to the deviators.

Teachers were discovered who believe that dental hygiene instruction is really a parent responsibility and not a proper subject for school (probably a correct belief for some cultures; but where parents don't even use toothbrushes, they can hardly be expected to give instruction). For this reason, and possibly others, some teachers allowed children to take their toothbrushes and dental materials home. While this offers the hypothetical advantage of more practice, it also prevents further instruction, practice, and training in the classroom, which is the very core of TATTLETOOTH.

All-in-all, it must be emphasized that comparisons of regions, classrooms, grades, dentists, schools and outcomes is a tricky endeavor, and would overlook too many variables. But it is also considered that if, in spite of all these kinks, there is both a dental and educational improvement, then the product has a lot going for it.

4. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

A. Discussion

Fairly early in the second year of the TATTLETOOTH development process, a decision was made to use a true "field test" approach rather than to carry out an "experiment" to gather evaluation data. In other words, trying the program out in a large number of classrooms, on very close to an operational basis, was felt to be a more realistic and helpful test than designing a carefully controlled experiment, where limited numbers of teachers and children would be observed. The experimental approach is possibly a little more advantageous to the evaluation researcher, but the field test situation definitely yields more information that is useful when large-scale implementation is foreseen.

Thus the variability pointed out in the previous section is understood as a natural situation, and the various sources of unreliability that may frustrate the evaluator are a way of life to the educator and health professional. TATTLETOOTH was submitted to a real field test. It was made available to almost 16,000 children throughout Texas (and completed by about 10,000), in rural and urban settings, in large and small schools, in a variety of socio-economic settings, and with no racial or ethnic minorities excluded. The test required impressive cooperation from a large number of people in a variety of professional settings. The importance of dental health was almost universally admitted, and the magnitude of the problem of dental disease in this state gave a special urgency to both the development and field test effort.

Many individuals were critical, but constructively so. There was little question about the need for such a program, and most disappointment expressed involved timing and preparation rather than either the concept or the specific materials.

B. General Conclusions from the Evaluation Data

1. The teachers generally felt that their inservice training was helpful, and sufficient, the most frequent criticisms asking for

   a. earlier training,
   b. separate training for different grade levels, and
   c. "refresher" inservice training sessions.

2. The TATTLETOOTH curriculum materials were successful in teaching dental information and in increasing awareness of dental health practices and attitudes. This was true on all grade levels, but there was some Regional variation. There was less participation in the junior and senior high schools, and also a little less educational progress in these grades, especially in some Regions. Statewide, there was most improvement in the first and third grades and least in the fifth.

3. In terms of the dental criteria, almost all of the field test posttest scores are better than the control group posttest scores, with most obvious improvement seen in segment E of the examined surfaces and in the incisors, as compared to the other teeth. The differences are often modest, but, a least on a Statewide basis, mostly significant. In several of the field test classroom groups, the examining dentists found a general deterioration in the cleanliness of the children's mouths in the posttest, suggesting some deleterious factors operating, but in approximately 80% of the grade groups, the children who had the TATTLETOOTH curriculum either

a. improved more than those in the control group,

b. showed less deterioration than the control group, or

c. showed improvement while the control group gave evidence of deterioration.

4. The majority of the participating teachers understood the model and applied it conscientiously, but most of them modified the materials in line with their own individual preferences and teaching situations. This was expected and offered as an option in the lesson plans. Ninety percent of the expert classroom observations found the objectives of the lesson plans being wholly or nearly all met.

5. The teachers who used the TATTLETOOTH program liked it. Ninety-two percent said they would use it again. Most (83%) found at least some improvement in dental behavior and attitudes in their classes. There was a strong (85%) conviction that parental support is essential for success of a program like this.

6. The variability both within and among Regions, and lack of standardization in application of the model were sources of unreliability in the statistical treatment of the data, but they also offered strong evidence that TATTLETOOTH can survive in a real operational situation.

C. Recommendations

One important source of evaluation data, not discussed heretofore, consisted of thoughtful overviews provided by participating dentists, TEA personnel, and Educational Service Center Coordinators. These individuals had insights that were most useful, and they were generous in offering suggestions and recommendations. Their findings, added to other evaluation data, including teacher suggestions, form the basis of this section.

1. Possibly the most often-heard recommendation (and implied criticism) involved timing. As previously pointed out, the tight schedule of development, pilot testing, and field testing dictated introduction of the TATTLETOOTH program at an inconvenient time, long after most teachers had planned their work for the year. In normal operational use, the inservice should be offered before schedules are planned in the Fall, and there were also recommendations involving brief "refresher" training a few months later.

2. The importance of high-quality inservice training was mentioned often, by expert observers, teachers, and coordinators. The philosphy and approach of TATTLETOOTH are crucial to its effective use, and only through inservice experiences of real freshness and power will teachers gain understanding of the model. The timing is, as pointed out above, a significant factor, but the quality and completeness of the training are even more so For this reason, further refinement and standardization of inservice training procedures and materials would be recommended. A possible refinement approach, mentioned frequently by teachers, would concentrate on specific grade levels, possibly involving several Regions.

3. There was a strong feeling that parents and communities have an important impact on the success of programs in dental health. TATTLETOOTH developers were aware of this, and support packages were designed. Possibly because of the time pressure, these tools were not used to an optimal extent, and it is felt that more attention to enlisting the aid of significant community resources could increase the effectiveness of the curriculum.

4. Though the present test results do indicate both educational and dental progress with TATTLETOOTH, there is no suggestion of permanence in these gains. The point was made that the benefit from such a program would most

probably be cummulative, based on regular reinforcement of health behavior and attitudes. Long-term improvement is, of course, the real goal of all the agencies and individuals involved in TATTLETOOTH, and the recommendation here would be for immediate, continued, and expanding broad-scale application of the program, with additional evaluation efforts to estimate effectiveness over a time-span of years rather than weeks.

APPENDIX A

Kindergarten Teacher Instructions

Kindergarten Test (Pre- and Post-)

Grades 1 and 2 Teacher Instructions

Grade 1 Test (Pre- and Post-)

Grade 2 Test (Pre- and Post-)

Grade 3 Teacher Instructions

Grade 3 Test (Pre- and Post-)

Grade 4 Test (Pre- and Post-)

Grade 5 Test (Pre- and Post-)

Grade 6 Test (Pre- and Post-)

Junior High Test (Pre- and Post-)

Senior High Test (Pre- and Post-)

Standard Answer Sheet*

Educational Test Key

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*Used for grades 4, 5, 6, and secondary levels. Grade 3 and lower answered on the question form.

TATTLETOOTH--KINDERGARTEN

To the teacher: Please read these questions slowly enough so that all the children can answer. Be sure that their names are on their answer sheets.

1. Do you have your own toothbrush at home? Put a circle around the little toothbrush if you do, and put a circle around the X if you do not have a toothbrush.

2. Put a circle around the snack that might be bad for your teeth. (Pictured are grapes, a banana, pie, and popcorn.)

3. How often do you brush your teeth? Put a circle around the two toothbrushes if it is two or more times a day. Put a circle around the one toothbrush if it is once a day. Put a circle around the X if you only brush now and then, and put a circle around the XX if you never brush your teeth.

4. Have you ever used dental floss? Put a circle around the dental floss picture if you have, and put a circle around the X if you have not.

5. What is plaque? If you think it is something that helps your teeth, put a circle around the happy tooth. If you think it hurts your teeth, put a circle around the sad tooth.

6. Have you ever been to a dentist? If you have, put a circle around the dentist picture. If you have not, put a circle around the X.

7. Put a circle around the picture that shows something that could hurt your teeth. (Pictured are reading a book, fishing, and two children swinging.)

8. Do your teeth ever hurt? If your answer is "yes," put a circle around the hurt tooth. If it is "no," put a circle around the X.

TATTLETOOTH--KINDERGARTEN

Name________________________________

Code Number_____________________________

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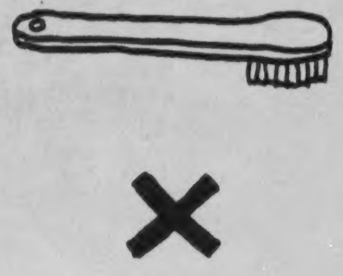

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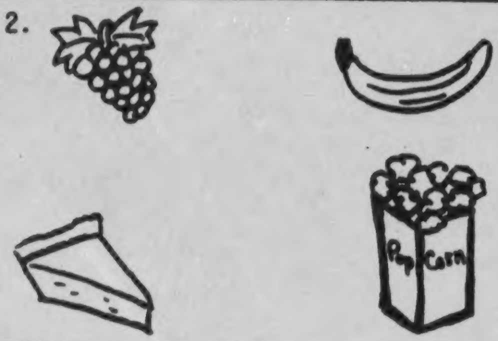

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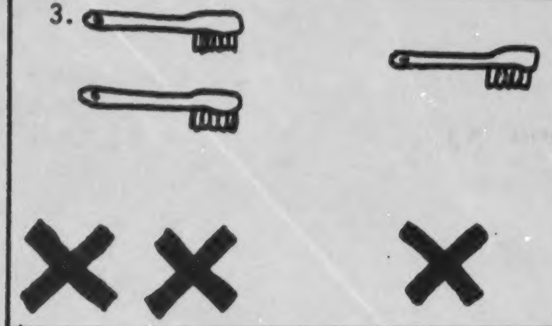

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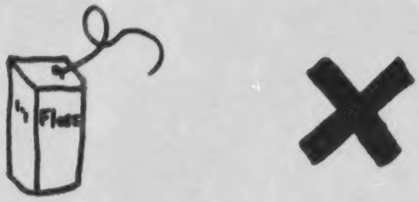

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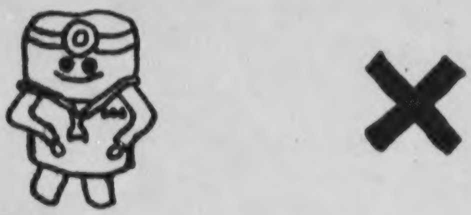

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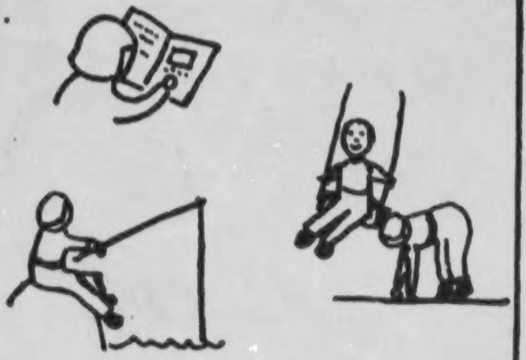

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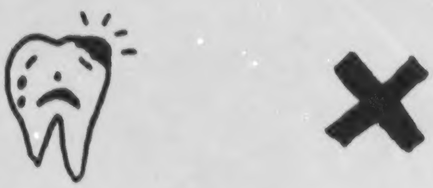

TATTLETOOTH

SPECIAL INSTRUCTIONS FOR TEACHERS of Grade 1 and Grade 2

Please read these questions and answers slowly enough so that the children can all answer. If they have any trouble understanding, go over the instructions again, making any explanations you feel will make them comprehensible to your class. Some of these questions involve knowledge, and some ask for information. Let your students know that there are several questions they probably won't be able to answer because they haven't learned them yet, but that they should do their best anyway, and they will get another chance later on. (However, please do not help them with the meanings of the words in the actual test!) Please make sure the students' names and code numbers are on their papers. (Code numbers will be provided to you by your service center trainer.)

TATTLETOOTH--GRADE 1

Name______________________________

Code Number__________________________

Your teacher will read these questions and answers to you. Put a circle around the letter by the answer you choose. Be sure your name and code number are on your test paper.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I never had a toothbrush.

2. Mark the thing that is bad to chew.
   A - Apples.
   B - Ice.
   C - Popcorn.
   D - Fried chicken.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Your six-year molars
   A - Help keep other teeth in line.
   B - Will fall out later on.
   C - Don't need any special care.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. What is plaque?
   A - A red wafer.
   B - A toothpaste.
   C - Something to fill teeth with.
   D - A sticky layer of germs on teeth.
   E - I don't know.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. The root is one part of a tooth. The other part is the
    A - Crown.
    B - Base.
    C - Top.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Which of these would be safest for your teeth?
    A - A baseball bat.
    B - Reading a book.
    C - Playing on a swing.
    D - Chewing a pencil.

Turn the page over and answer the questions on the back.

TATTLETOOTH--GRADE 1

13. How important are your teeth to your personality?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

14. How important are your teeth to your general health?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

TATTLETOOTH--GRADE 2

Name________________________________

Code Number_________________________

Your teacher will read these questions and answers to you. Put a circle around the letter by the answer you choose. Be sure your name and code number are on your test paper.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I never had a toothbrush.
   E - No, but I use someone else's.

2. A tooth that has been knocked out
   A - Can never be put back.
   B - Can sometimes be replaced by a dentist.
   C - Can always be put back.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. Tooth cavities are caused by
   A - Accidents.
   B - Milk and raw foods.
   C - Crisp foods.
   D - Plaque and sugar.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps clean away plaque.
    B - Takes the place of brushing.
    C - Isn't needed if you brush.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questions on the back.

TATTLETOOTH--GRADE 2

13. Your six-year molars
    A - Will fall out later.
    B - Help keep other teeth in line.
    C - Don't need special care.

14. Which of these snacks would be best for your teeth?
    A - Candy.
    B - Peanuts.
    C - Cookies.
    D - Pie.

15. How important are your teeth to your personality?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

16. How important are your teeth to your general health?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

TATTLETOOTH

SPECIAL INSTRUCTIONS FOR TEACHERS

of Grade 3

If your students would have trouble reading this material, read it aloud to them, slowly enough so that they can all answer. If they have any trouble understanding, go over the instructions again, making any explanations you feel will make them comprehensible to your class. Some of these questions involve knowledge, and some ask for information. Let your students know that there are several questions they probably won't be able to answer because they haven't learned them yet, but that they should do their best anyway, and they will get another chance later on. (However, please do not help them with the meanings of the words in the actual test!) Please made sure the students' names and code numbers are on their papers. (Code numbers will be provided to you by your service center trainer.)

TATTLETOOTH--GRADE 3

Name________________________________

Code Number__________________________

Put a circle around the letter by the answer you choose. Be sure your name and code number are on your test paper.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No. I used to have one, but I don't now.
   D - No, I never had a toothbrush.
   E - No, but I use someone else's.

2. What is plaque?
   A - A red wafer.
   B - A clump of germs on a tooth.
   C - A toothpaste.
   D - A material for filling a tooth.
   E - I don't know.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. Toothpaste is
   A - Only good if it has mouthwash.
   B - Necessary for clean teeth.
   C - Harmful if it has fluoride.
   D - Really only good if it has fluoride.
   E - Impossible to make at home.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps to remove plaque.
    B - Takes the place of brushing.
    C - Removes tooth enamel.
    D - Is not necessary if you brush.
    E - Should be done only if teeth are stained.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questionson the back.

TATTLETOOTH--GRADE 3

13. Which of these snacks would be bad for your teeth?
A - Apple.
B - Soda pop.
C - Carrot sticks.
D - Orange juice.
E - Celery.

14. Who is the biggest influence on how you take care of your teeth?
A - Parents.
B - Teacher.
C - Boyfriend (or girlfriend).
D - TV commercials.
E - Other.

15. Both tooth decay and bleeding gums are caused by
A - Fluoride.
B - Failure to use toothpaste.
C - Raw foods.
D - Accidents.
E - Plaque.

16. Do you feel good about the appearance and condition of your teeth?
A - Yes.
B - They're ok, I guess.
C - No.
D - I've never thought about it.

17. What would you do if you had a dental problem?
A - See a dentist.
B - Ask the school nurse.
C - Tell a parent.
D - Not tell anyone and wait for it to go away.
E - Other.

18. Snacks that are bad for your teeth are mostly those that
A - Taste bad.
B - Are nutritious.
C - Have a lot of sugar.
D - Are crunchy or crisp.
E - Are salty.

19. How do you feel about dentists?
A - Hate them.
B - Afraid of them.
C - Like some, don't like others.
D - Like them all.
E - Don't know any.

20. Which of these activities would probably be safest for your teeth?
A - Football without face guards.
B - Playing on swings.
C - Baseball.
D - Bicycle riding.
E - Fishing.

21. How important are your teeth to your personality?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the least important things.

22. How important are your teeth to your general health?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the least important.

TATTLETOOTH--GRADE 4

Do not make any marks on this test paper! Answer the questions by marking the space on the separate answer sheet that is the same as your chosen answer. (Be sure that your name and code number are on the answer sheet!) Use a pencil, please--not a pen.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I never had a toothbrush.
   E - No, but I use someone else's.

2. Which of these snacks would be bad for your teeth?
   A - Apple.
   B - Soda pop.
   C - Carrot sticks.
   D - Orange juice.
   E - Celery.

3. How often do you brush your brush?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. What is plaque?
   A - A red wafer.
   B - A material for filling teeth.
   C - A toothpaste.
   D - A patch of bacteria on a tooth.
   E - I don't know.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have any dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps to remove plaque.
    B - Takes the place of brushing.
    C - Removes tooth enamel.
    D - Is not necessary if you brush.
    E - Should be done only if your teeth are stained.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questionson the back.

13. Your six-year molars
    A - Will fall out later.
    B - Help keep other teeth in line.
    C - Don't need any special care.

14. Who is the biggest influence on how you take care of your teeth?
    A - Parents.
    B - Teacher.
    C - Boyfriend (or girlfriend).
    D - TV commercials.
    E - Other.

15. Which of these could be a "fad food" that might harm your teeth?
    A - Hard-boiled eggs.
    B - Hamburgers.
    C - Peanuts.
    D - Milk.
    E - Caramel lollipops.

16. Do you feel good about the appearance and condition of your teeth?
    A - Yes.
    B - They're ok, I guess.
    C - No.
    D - I've never thought about it.

17. What would you do if you had a dental problem?
    A - See a dentist.
    B - Ask the school nurse.
    C - Tell a parent.
    D - Not tell anyone and wait for it to go away.
    E - Other.

18. Fluorides can
    A - Only be taken in water.
    B - Completely prevent all dental cavities.
    C - Help teeth resist decay.
    D - Only be applied by dentists.
    E - Rot your teeth.

19. How do you feel about dentists?
    A - Hate them.
    B - Afraid of them.
    C - Like some, don't like others.
    D - Like them all.
    E - Don't know any.

20. Trigger foods are
    A - Usually bad tasting.
    B - Helpful in preventing tooth decay.
    C - The most important source of vitamins.
    D - Necessary for nutrition.
    E - High in sugar and carbohydrates.

21. How important are your teeth to your personality?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

22. How important are your teeth to your general health?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

TATTLETOOTH--GRADE 5

Do not make any marks on this test paper! Answer the questions by marking the space on the separate answer sheet that is the same as your chosen answer. (Be sure that your name and code number are on the answer sheet!) Use a pencil, please--not a pen.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I've never had a toothbrush.
   E - No, but I use someone else's.

2. Plaque is a
   A - Red wafer.
   B - Patch of bacteria on a tooth.
   C - Hole in a tooth.
   D - Material for filling a tooth.
   E - Toothpaste.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. The most important question to ask before buying a dental care product is
   A - Will it make your teeth white?
   B - Will it hide bad breath?
   C - Does it taste good?
   D - Will it help keep your teeth clean?
   E - Does it contain mouthwash?

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have bad dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps to remove plaque.
    B - Takes the place of brushing.
    C - Removes tooth enamel.
    D - Is not necessary if you brush.
    E - Should be done only if teeth are stained.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questions on the back.

TATTLETOOTH--GRADE 5

13. Compared to healthful snacks, those that are harmful to teeth
    A - Are harder.
    B - Have more sugar.
    C - Are chewier.
    D - Have more vitamins.
    E - Have less carbohydrates.

14. Who is the biggest influence on how you take care of your teeth?
    A - Parents.
    B - Teacher.
    C - Boyfriend (or girlfriend).
    D - TV commercials.
    E - Other.

15. Which sentence is true about braces?
    A - They ruin your social life.
    B - They make it unnecessary to brush teeth.
    C - Almost everyone needs them sooner or later.
    D - They leave stains and spots on your teeth.
    E - They correct malocclusion.

16. Do you feel good about the appearance and condition of your teeth?
    A - Yes.
    B - They're ok, I guess.
    C - No.
    D - I've never thought about it.

17. What would you do if you had a dental problem?
    A - See a dentist.
    B - Ask the school nurse.
    C - Tell a parent.
    D - Not tell anyone and wait for it to go away.
    E - Other.

18. The main cause of dental decay is a combination of
    A - Fats and calories.
    B - Hard foods and fluorides.
    C - Plaque and carbohydrates.
    D - Raw foods and milk.
    E - Protein and cereals.

19. How do you feel about dentists?
    A - Hate them.
    B - Afraid of them.
    C - Like some, don't like others.
    D - Like them all.
    E - Don't know any.

20. The best way to overcome a bad eating or snacking habit is to
    A - Make yourself feel guilty.
    B - Give yourself a lot of lectures.
    C - Cut down on all snacking and eating.
    D - Punish yourself whenever you make a mistake.
    E - Replace the bad habit with a better one.

21. How important are your teeth to your personality?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

22. How important are your teeth to your general health?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

TATTLETOOTH--GRADE 6

Do not make any marks on this test paper! Answer the questions by marking the space on the separate answer sheet that is the same as your chosen answer. (Be sure that your name and code number are on the answer sheet!) Use a pencil, please--not a pen.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I never had a toothbrush.
   E - No, but I use someone else's.

2. Plaque is a
   A - Red wafer
   B - Patch of bacteria on a tooth.
   C - Hole in a tooth.
   D - Material for filling a tooth.
   E - Toothpaste.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes
   B - No

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. The main cause of tooth loss after the age of 35 is
   A - Not found in the teen years.
   B - Orthodontics.
   C - Trench mouth.
   D - Periodontal disease.
   E - Cavities.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps to remove plaque.
    B - Takes the place of brushing.
    C - Removes tooth enamel.
    D - Is not necessary if you brush.
    E - Should be done only if teeth are stained.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questions on the back.

TATTLETOOTH--GRADE 6

13. Caries is
A - Plaque.
B - Tooth decay.
C - Malocclusion.
D - Periodontal disease.
E - Bad breath.

14. Who is the biggest influence on how you take care of your teeth?
A - Parents.
B - Teacher.
C - Boyfriend (or girlfriend).
D - TV commercials.
E - Other.

15. Which of these sentences is true about fluorides?
A - They are still experimental.
B - They are expensive.
C - They can only be applied to teeth by dentists.
D - They can only be taken in the water supply.
E - They harden the tooth enamel during development.

16. Do you feel good about the appearance and condition of your teeth?
A - Yes.
B - They're ok, I guess.
C - No.
D - I've never thought about it.

17. What would you do if you had a dental problem?
A - See a dentist.
B - Ask the school nurse.
C - Tell a parent.
D - Not tell anyone and wait for it to go away.
E - Other.

18. The main cause of dental decay is a combination of
A - Fats and calories.
B - Hard foods and fluorides.
C - Plaque and carbohydrates.
D - Raw foods and milk.
E - Protein and cereals.

19. How do you feel about dentists?
A - Hate them.
B - Afraid of them.
C - Like some, don't like others.
D - Like them all.
E - Don't know any.

20. Trigger foods are
A - Usually bad tasting.
B - Helpful in preventing tooth decay.
C - The most important source of vitamins.
D - Necessary for nutrition.
E - High in sugar and carbohydrates.

21. How important are your teeth to your personality?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the least important things.

22. How important are your teeth to your general health?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the least important.

TATTLETOOTH--JUNIOR HIGH

Do not make any marks on this test paper! Answer the questions by marking the space on the separate answer sheet that is the same as your chosen answer. (Be sure that your name and code number are on the answer sheet!) Use a pencil, please--not a pen.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I've never had a toothbrush.
   E - No, but I use someone else's.

2. Acid that decays teeth results from a combination of
   A - Fats and calories.
   B - Plaque and carbohydrates.
   C - Carbonated beverages and protein.
   D - Raw foods and milk.
   E - Cereal and fluorides.

3. How often you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three or four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers?
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. Compared to healthful snacks, trigger foods tend to
   A - Be harder.
   B - Be less expensive.
   C - Have less starch.
   D - Have more sugar.
   E - Be chewier.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The best way to brush teeth is
   A - Back and forth, pressing hard.
   B - Up and down only.
   C - With a gentle wiggling motion.
   D - In a circle, fast.
   E - Any direction, with a hard brush.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not very serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. Flossing your teeth
    A - Helps to remove plaque.
    B - Takes the place of brushing.
    C - Removes tooth enamel.
    D - Is not necessary if you brush.
    E - Should only be done if teeth are stained.

11. Do you think you eat or drink a lot of sweet snacks.
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questions on the back.

TATTLETOOTH--JUNIOR HIGH

13. In a leadership situation, one of the jobs of the group leader is to
    A - Report what was discussed.
    B - Promote a feeling of friendliness.
    C - Report conclusions.
    D - Write down major contributions.
    E - Listen to the presentation.

14. Who is the biggest influence on how you take care of your teeth?
    A - Parents.
    B - Teacher.
    C - Boyfriend (or girlfriend).
    D - TV commercials.
    E - Other.

15. Orthodontic treatment
    A - Is needed by almost everyone sooner or later.
    B - Makes it unnecessary to brush teeth.
    C - Leaves spots and stains on the teeth.
    D - Neutralizes the actin of fluorides.
    E - Is a method of correcting malocclusion.

16. Do you feel good about the appearance and condition of your teeth?
    A - Yes.
    B - They're ok, I guess.
    C - No.
    D - I've never thought about it.

17. What would you do if you had a dental problem?
    A - See a dentist.
    B - Ask the school nurse.
    C - Tell a parent.
    D - Not tell anyone and wait for it to go away.
    E - Other.

18. Which of the following tooth discoloration can be removed?
    A - Tetracycline stains.
    B - White spots indicating hypomineralized areas.
    C - Mild fluorosis.
    D - The darkness of devitalized teeth.
    E - White spots from early cavities.

19. What is your attitude toward dentists?
    A - Hate them.
    B - Afraid of them.
    C - Like some, don't like others.
    D - Like them all.
    E - Don't know any.

20. Which of these sentences is true about fluorides?
    A - They are still experimental.
    B - They are expensive.
    C - They can only be applied to teeth by dentists.
    D - They can only be taken in the water supply.
    E - They harden the tooth enamel during development.

21. How important are your teeth to your personality?
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

22. How important are your teeth to your general health.
    A - One of the most important things.
    B - Pretty important.
    C - Average importance.
    D - Not very important.
    E - One of the least important things.

TATTLETOOTH--SENIOR HIGH

Do not make any marks on this test paper! Answer the questions by marking the space on the separate answer sheet that is the same as your chosen answer. (Be sure that your name and code number are on the answer sheet!) Use a pencil, please--not a pen.

1. Do you own a toothbrush?
   A - Yes, I have one.
   B - Yes, I have more than one.
   C - No, I used to have one, but I don't now.
   D - No, I've never had a toothbrush.
   E - No, but I use someones else's.

2. Acid that decays teeth results from a combination of
   A - Fats and calories.
   B - Plaque and carbohydrates.
   C - Carbonated beverages and protein.
   D - Raw foods and milk.
   E - Cereal and fluorides.

3. How often do you brush your teeth?
   A - Once a day.
   B - More than once a day.
   C - Three of four times a week.
   D - Only now and then.
   E - I never brush.

4. Do you use any of the following: toothpicks, water pik, disclosing wafers.
   A - Yes.
   B - No.

5. How often do you use dental floss?
   A - Every day.
   B - A few times a week.
   C - Once a week.
   D - Once a month.
   E - Never.

6. Compared to healthful snacks, trigger foods tend to
   A - Be harder.
   B - Be less expensive.
   C - Have less starch.
   D - Have more sugar.
   E - Be chewier.

7. How often do you go to the dentist?
   A - About twice a year.
   B - Only when I have a toothache.
   C - I've never been to a dentist.

8. The area of your teeth that can be properly cleaned with a brush is about
   A - 25%.
   B - 40%.
   C - 60%.
   D - 80%.
   E - 95%.

9. Do you think you have dental problems?
   A - Yes, very bad ones.
   B - Yes, but not serious ones.
   C - I'm not sure.
   D - Not now, but I used to.
   E - No, and I never have.

10. The major cause of tooth loss after the age of 35 is
    A - Periodontal disease.
    B - Accidents.
    C - Not found in young adults.
    D - Cavities.
    E - Orthodontic treatment.

11. Do you think you eat or drink a lot of sweet snacks?
    A - Yes, I always get more than I should.
    B - Sometimes I go overboard, but not regularly.
    C - Almost never.
    D - Never.

12. Where do you get most of your information about dental health?
    A - Parents.
    B - Sisters and brothers.
    C - TV commercials.
    D - Dentists.
    E - Other.

Turn the page over and answer the questions on the back.

TATTLETOOTH--SENIOR HIGH

13. Which of these developmental mouth abnormalities is a birth defect?
A - Anodontia.
B - Cleft palate.
C - Diastema.
D - Supernumerary teeth.
E - Hypoplasia.

14. Who is the biggest influence on how you take care of your teeth?
A - Parents.
B - Teacher.
C - Boyfriend (or girlfriend).
D - TV commercials.
E - Other.

15. What percent of adult Americans suffer from dental caries, periodontal disease, or both?
A - 50%.
B - 60%.
C - 70%.
D - 80%.
E - 90%.

16. Do you feel good about the appearance and condition of your teeth?
A - Yes.
B - They're ok, I guess.
C - No.
D - I've never thought about it.

17. What would you do if you had a dental problem?
A - See a dentist.
B - Ask the school nurse.
C - Tell a parent.
D - Not tell anyone and wait for it to go away.
E - Other.

18. In a group dynamics situation, one of the groups leader's jobs is to
A - Write down major contributions.
B - Report the conclusions.
C - Promote the feeling of friendliness.
D - Report what was discussed.
E - Listen to the presentation.

19. What is your attitude toward dentists?
A - Hate them.
B - Afraid of them.
C - Like some, don't like others.
D - Like them all.
E - Don't know any.

20. Which of the following tooth discoloration can be removed?
A - Tetracycline stains.
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C - White spots from early cavities.
D - The darkness of devitalized teeth.
E - Mild fluorosis.

21. How important are your teeth to your personality?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the least important things.

22. How important are your teeth to your general health?
A - One of the most important things.
B - Pretty important.
C - Average importance.
D - Not very important.
E - One of the lease important.

PRINT YOUR NAME IN THE BOXES PROVIDED. THEN BLACKEN THE LETTER BOX BELOW WHICH MATCHES EACH LETTER OF YOUR NAME.

YOUR LAST NAME — YOUR FIRST NAME — MI

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

FORM OF THIS TEST IS: A B C D

1 2 3 4

SEMESTER FALL SPRING

A B

TEACHER ONLY: STUDENT ABSENT FOR PART:

I II III IV

STUDENT NUMBER

1 2 3 4 5 6

GRADE

BIRTH DATE MO YEAR

SEX

0 1 2 3 4 5 6 7 8 9

SCHOOL______ CITY______

INSTRUCTOR______ GRADE______ TEST______

I	1 A B C D E	6 A B C D E	11 A B C D E	16 A B C D E	21 A B C D E	26 A B C D E	31 A B C D E	36 A B C D E
	2 A B C D E	7 A B C D E	12 A B C D E	17 A B C D E	22 A B C D E	27 A B C D E	32 A B C D E	37 A B C D E
	3 A B C D E	8 A B C D E	13 A B C D E	18 A B C D E	23 A B C D E	28 A B C D E	33 A B C D E	38 A B C D E
	4 A B C D E	9 A B C D E	14 A B C D E	19 A B C D E	24 A B C D E	29 A B C D E	34 A B C D E	39 A B C D E
	5 A B C D E	10 A B C D E	15 A B C D E	20 A B C D E	25 A B C D E	30 A B C D E	35 A B C D E	40 A B C D E
II	41 A B C D E	46 A B C D E	51 A B C D E	56 A B C D E	61 A B C D E	66 A B C D E	71 A B C D E	76 A B C D E
	42 A B C D E	47 A B C D E	52 A B C D E	57 A B C D E	62 A B C D E	67 A B C D E	72 A B C D E	77 A B C D E
	43 A B C D E	48 A B C D E	53 A B C D E	58 A B C D E	63 A B C D E	68 A B C D E	73 A B C D E	78 A B C D E
	44 A B C D E	49 A B C D E	54 A B C D E	59 A B C D E	64 A B C D E	69 A B C D E	74 A B C D E	79 A B C D E
	45 A B C D E	50 A B C D E	55 A B C D E	60 A B C D E	65 A B C D E	70 A B C D E	75 A B C D E	80 A B C D E
III	81 A B C D E	86 A B C D E	91 A B C D E	96 A B C D E	101 A B C D E	106 A B C D E	111 A B C D E	116 A B C D E
	82 A B C D E	87 A B C D E	92 A B C D E	97 A B C D E	102 A B C D E	107 A B C D E	112 A B C D E	117 A B C D E
	83 A B C D E	88 A B C D E	93 A B C D E	98 A B C D E	103 A B C D E	108 A B C D E	113 A B C D E	118 A B C D E
	84 A B C D E	89 A B C D E	94 A B C D E	99 A B C D E	104 A B C D E	109 A B C D E	114 A B C D E	119 A B C D E
	85 A B C D E	90 A B C D E	95 A B C D E	100 A B C D E	105 A B C D E	110 A B C D E	115 A B C D E	120 A B C D E
IV	121 A B C D E	126 A B C D E	131 A B C D E	136 A B C D E	141 A B C D E	146 A B C D E	151 A B C D E	156 A B C D E
	122 A B C D E	127 A B C D E	132 A B C D E	137 A B C D E	142 A B C D E	147 A B C D E	152 A B C D E	157 A B C D E
	123 A B C D E	128 A B C D E	133 A B C D E	138 A B C D E	143 A B C D E	148 A B C D E	153 A B C D E	158 A B C D E
	124 A B C D E	129 A B C D E	134 A B C D E	139 A B C D E	144 A B C D E	149 A B C D E	154 A B C D E	159 A B C D E
	125 A B C D E	130 A B C D E	135 A B C D E	140 A B C D E	145 A B C D E	150 A B C D E	155 A B C D E	160 A B C D E

STANDARD ANSWER SHEET - A

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DS 1120 - A

© OPTICAL SCANNING FORMS OPTICAL SCANNING CORPORATION

TATTLETOOTH EDUCATIONAL TEST
KEY

(Pretest and Posttest)

Students in grades K, 1, 2, and 3 answer on Question Sheets by circling their answers.

Grade	Code
K	0
1	1
2	2
3	3

Students in grades 4, 5, 6, Jr Hi, and Sr Hi answer on Standard Answer Form A.

Grade	Code
4	4
5	5
6	6
Jr Hi	7
Sr Hi	8

Grade Question	K	1	2	3, 4, 5, 6, Jr & Sr Hi
1	A (toothbrush)	A or B	A or B	A or B
2	C (pie)	B	B	B
3	A or B (toothbrush)	A or B	A or B	A or B
4	A (floss)	A	A	A
5	B (sad tooth)	A or B	A or B	A or B
6	A (dentist)	D	D	D
7	C (swings)	A	A	A
8	B (x)	C	C	C
9		D or E	D or E	D or E
10		A	A	A
11		C or D	C or D	C or D
12		B	[DON'T SCORE, JUST TABULATE]	
13		A or B	B	B
14		A or B	B	[DON'T SCORE, JUST TABULATE]
15			A or B	E
16			A or B	A
17				A or B or C
18				C
19				C or D
20				E
21				A or B
22				A or B

APPENDIX B

Teacher Evaluation Sheet

(Responses were made on Standard Answer Sheets; additional comments could be made on separate sheets.)

TATTLETOOTH FIELD TEST EVALUATION SHEET

Please try to answer all the questions, but provide only one answer to each question. Blacken the correct space on the answer sheet. This questionnaire need not be returned. You may put your name, school, grade, etc. on the answer sheet, as you see fit. But please be sure to put your Teacher Code Number on the answer sheet, in the six numbered spaces below "Form of this test is," and to the left of the column "Grade." Also blacken the correct rectangles. The answer sheet should be returned with your class' answers, to: Educational Development Corporation, 2813 Rio Grande, Austin, TX 78705.

1. Did you use the Tattletooth Lesson Plans?

   A. In a regular classroom activity.
   B. In a special subject class.
   C. Combined with another class.
   D. In a health class.
   E. Other.

2. Did you ask for help from any of the following (if none, do not answer this question)?

   A. Another teacher or aide.
   B. School nurse.
   C. A dentist.
   D. A dental hygienist.
   E. More than one of the above.

3. How many lesson plans did you use?

   A. Five or less.
   B. Six or seven.
   C. Eight.
   D. Nine.
   E. All ten.

4. Did you receive the dental materials?

   A. Yes, on time.
   B. Yes, but very late.
   C. Yes, but insufficient. (Everyone was short disclosing wafers, so please do not consider them.)
   D. No, we did a scrounge job.
   E. No, we had nothing to work with.

Please answer the next 6 questions with a yes or no.

Items 5, 6, 7, 8, and 9. In using these lessons, did you feel that you generally had adequate support

5. In the lesson plans and materials as provided?

   A. Yes B. No

6. In the inservice training session?

   A. Yes B. No

7. From the local dental community?

   A. Yes B. No

8. From the reference material?

   A. Yes B. No

9. From the educational structure? (School, district, service center, TEA)

   A. Yes B. No

10. Did you receive any help in the demonstration of brushing and flossing?

   A. Yes B. No

11. Did your class use disclosing wafers in the classroom?

   A. No.
   B. Yes, once.
   C. Yes, two to four times.
   D. Yes, five to seven times.
   E. Yes, eight or more times.

12. Did your class actually brush and floss in the classroom?

   A. No.
   B. Yes, once.
   C. Yes, two or three weeks.
   D. Yes, four or five weeks.
   E. Yes, six or more weeks.

13. Do you feel that the dental problems in your class (or classes) are

   A. Widespread and severe?
   B. About normal?
   C. Rare?
   D. Non-existent?
   E. Don't know?

14. Which of the following is true for you?

A. I have taught a separate dental unit involving brushing and flossing at least once before Tattletooth.
B. I have taught a separate dental unit involving brushing and flossing more than once before Tattletooth.
C. I have taught a dental health unit that was part of a total health curriculum at least once before Tattletooth.
D. I have taught a dental health unit that was part of a total health curriculum more than once before Tattletooth.
E. I have never taught any dental health unit before Tattletooth.

15. How would you value the changes in dental health or in attitudes about dental health that the Tattletooth program has made in your class?

A. Drastic improvements.
B. Slight changes, all good ones.
C. No changes whatsoever.
D. Negative results, and things are worse than before.
E. The time has been too short for any changes to appear.

16. Please select the one of the following statements that is closest to your feelings:

A. I like visual aids and was able to use them to the maximum extent.
B. I like visual aids but was unable to get transparencies made.
C. My use of visual aids is limited because I cannot get an overhead projector.
D. I don't think visual aids are needed in Tattletooth.
E. I prefer to use a curriculum that doesn't use or need visual aids.

As you now look back on your inservice training, do you find that (17, 18, 19)

17. The dental-technical portion was

A. Realistic and sufficient?
B. Too sketchy?
C. Not understandable?
D. Misleading?
E. Other?

18. The educational component was

A. Realistic and sufficient?
B. Too sketchy?
C. Not understandable?
D. Misleading?
E. Other?

19. The level of instruction was, considering the grade you teach,

A. Just right.
B. Too childish.
C. Too mature.
D. Too repetitious.
E. Other.

Please answer the next 11 questions with a yes or no, indicating in each case your overall opinions about the Tattletooth program:

20. The program is well conceived and structured.

A. Yes B. No

21. It requires too much time on this subject.

A. Yes B. No

22. It is a necessary course, but is too complicated.

A. Yes B. No

23. I found it embarrassing to teach.

A. Yes B. No

24. The program has several gaps.

A. Yes B. No

25. I like the approach but the materials are at the wrong level for my children.

A. Yes B. No

26. This program could be successful only if dentists participated more.

A. Yes B. No

27. I think parental participation is extremely important for lasting impact in a program like this.

A. Yes B. No

28. Instructions were too vague.

A. Yes B. No

29. I think that the program needs more time than the field test allowed.

A. Yes B. No

30. I have several ideas for improvement and have attached a sheet with my comments to the answer sheet. (Clip, do not staple!!)
A. Yes B. No

APPENDIX C

Checklist for Classroom Observation

Checklist for Teacher Interview

TATTLETOOTH
Checklist for Observation of Classrooms

1. Were students actively involved in the Tattletooth lesson?
   A. All participating actively.
   B. Some involved; others bystanding.
   C. Children involved only in response to teacher.
   D. Teacher doing the whole thing.
   E. It was difficult to relate the classroom activity to Tattletooth.

2. The teacher was using the prepared materials and using them with what success?
   A. Everything fell into place and worked out right.
   B. Mostly good - but a few turkeys.
   C. Moderate success.
   D. Teacher wasn't using the materials well and was having trouble.
   E. Teacher did very well; materials were faulty.

3. The teacher was given the option of using the materials as prepared, or she could modify them as she chose. She:
   A. was using them exactly as designed.
   B. used the materials with slight changes.
   C. found it necessary or desirable to change most of them.
   D. changed them completely.
   E. obviously was not prepared, and wasn't sure of what she was doing.

4. The teacher was applying the model (using the lesson plan) in teaching the lesson.
   A. Yes.
   B. No .
   C. Partially, and with good reason.
   D. Partially, but willy-nilly.
   E. Not observed.

5. To what extent were the objectives of that particular lesson plan met?
   A. Wholly.
   B. Nearly all.
   C. Slightly.
   D. Couldn't see any closure.
   E. Not observed.

5. What was the teacher's attitude toward the lesson during the class?
   A. Enthusiastic and supportive
   B. Positive but halfhearted
   C. Indifferent
   D. Mildly negative or condescending
   E. Opposed and destructive

7. What was the collective attitude of the students?
   - A. Joyous and receptive.
   - B. Accepting and passive.
   - C. Similar to other routines.
   - D. Hostile.
   - E. Bewildered.

8. What was the atmosphere in the classroom?
   - A. Warm, zealous, and electrifying.
   - B. Interesting, keen.
   - C. Mediocre, usual.
   - D. Hum-drum, dull.
   - E. Boredom.

TATTLETOOTH

Checklist for Teacher Interview

1. Were you generally satisfied with the inservice training session?
   A - Yes
   B - No
   C, D, E - (Unused)

2. What was the strong point of the inservice training?
   A - Organization
   B - Presentations
   C - Brevity
   D - Discussion
   E - Other

3. What was the weak point of the inservice training?
   A - Organization
   B - Presentations
   C - Lengthiness
   D - Foolish questions
   E - Other

4. Now that you are implementing the curriculum program, and using hindsight, were the inservice directions clear and adequate?
   A - Yes
   B - No
   C, D, E - (Unused)

5. In carrying out the program, how do you evaluate cooperation and support from the school administration?
   A - Terrific
   B - Good
   C - So-so
   D - Very little
   E - Absent

6. In carrying out the program, how do you evaluate cooperation and support from the school nurse?
   A - Terrific
   B - Good
   C - So-so
   D - Very little
   E - Absent

7. In carrying out the program, how do you evaluate cooperation and support from the P.T.A.?
   A - Terrific
   B - Good
   C - So-so
   D - Very little
   E - Absent

8. In carrying out the program, how do you evaluate cooperation and support from the educational service center?
A - Terrific
B - Good
C - So-so
D - Very little
E - Absent

9. In carrying out the program, how do you evaluate cooperation and support from the dental community?
A - Terrific
B - Good
C - So-so
D - Very little
E - Absent

the
10. Everything considered, describe/total educational, dental, and community support for your program:
A - Almost too much
B - Very fine
C - Some -- from the usual quarter
D - Not enough
E - What support?

11. How do you feel about the Tattletooth program at this point?
A - Extremely good
B - It's okay, but has gaps
C - It's just like any other program
D - I've seen many better dental programs
E - I hate it

12. If the materials are available again next year, and if it were your choice, would you voluntarily use the program again next year?
A - Yes
B - No
C - Too early to tell
D, E - (Unused)

APPENDIX D

20 May 1976 Letter to Regional Coordinators (20) and to Dental Examiners (7)

25 May 1976 Letter to Site Visitors (8)

EDUCATIONAL DEVELOPMENT CORPORATION
2813 RIO GRANDE
AUSTIN, TEXAS 78705

(512) 476-6868
476-5419

20 May 1976

To the Educational Coordinators:
To the Dental Examiners:

The Tattletooth field test is over, and the river of paper really has us on our toes. Most of the teachers are sending in their students' answer sheets and their own evaluation answers promptly and accurately. (But there are a few that are something else!) If you thought we had forgotten you, now is your chance!

We think you probably are now walking around with some valuable and useful information about Tattletooth, and it would be unfortunate not to use it properly. So we are asking you for your opinions, your ideas, and your overall judgment about the whole program.

No questionnaire for you. We are not looking for statistics--only broad conclusions and judgments. From the teachers and students we are getting a lot of information about specifics, but from you we hope to get an overview of the whole program--such things as major chunks that were missing, or gross conflicts, or unreasonable excursions in the wrong direction. Conversely, where things went particularly well, please say so. If you can explain the "why" as well as the "what," so much the better.

We know that you are busy and we hate to ask. Give it some thought on your way to work tomorrow, jot down a few notes, then bang out a brief and forthright opinion. And please send it before June first to

Educational Development Corporation
2813 Rio Grande
Austin, TX 78705

Thanks for your help--it is really appreciated.

Very truly yours,

Dorothy A. Fruchter

Dorothy A. Fruchter, Ph.D.
President

EDUCATIONAL DEVELOPMENT CORPORATION
2813 RIO GRANDE
AUSTIN, TEXAS 78705

(512) 476-6868
476-5419

25 May 1976

Dear

Those persons that have been conducting site visits during the Tattletooth field test have accumulated opinions and ideas which we would like to know about. The checklist forms that you've been sent have, by and large, reflected the teacher and practicioner viewpoint, augmented by a few of your comments.

But now that it's over, we'd like your own views. Please be brief, constructive, and broad-gauged. And we'd really appreciate it by June first. Please send to

Educational Development Corporation
2813 Rio Grande
Austin, TX 78705

Thanks for your help--it is really appreciated.

Very truly yours,

Dorothy A. Fruchter

Dorothy A. Fruchter, Ph.D.
President

APPENDIX E

(Dental Examination Instructions)

Dentist

Teacher

Dental Hygienist

Dental Hygienist Assistant

Recorder

Student Go-Getter

Supplies

DENTIST

Please read the job description of all personnel envolved to avoid last minute problems.

1. A. Distribute mark-sense sheets to the teachers prior to dental exam so that they can fill in student numbers.

   B. Distribute permission slips for teachers to give to students and collects them.

   C. Examine students according to the procedures outlines in previous meeting. Refer to attached sheets.

The tenth, twentieth, and thirtieth students will be sent back for re-examination after the 14th, 24th, and 34th students without restaining.

2. Upon completion of the pre-test, send the pre-test mark-sense sheets to: George Higginson
   2813 Rio Grande
   Austin, Texas 78705

3. Get the rosters from the principal and give these to the person going for the students.

TEACHER

1. The teacher sends out and collects the permission slips for the dental exam.

2. The teacher obtains the mark-sense sheets from the regional dentist or some other person.

3. Only seventeen students from each class will receive the dental examination. These seventeen students are selected by taking every other name on the class roster if they have returned the signed permission slip.

4. The teacher fills in the 17 students' number on the mark-sense sheet USING A #2 PENCIL and lightly writes the student's name on the back of the mark-sense sheet. The purpose for writing the name lightly on the back is to facilitate handing out the mark-sense sheets to the students at they time of the post test and as a means of checking to see that the student has his own mark-sense sheet.

5. The teacher who is teaching the Tattletooth program (experimental group) gets together with the teacher on the same grade level who is serving as the control group. (e.g. First grade Tattletooth teacher and first grade control group teacher.) Together they formulate the roster by mixing the names of the students of their two classes. The order in which the students names are placed on the roster should not be systematic; for example: two students from the control group followed by two students from the experimental group. In other words they scramble up the order in which the two groups go into the examination. This is so that the dental examiner will not know which is the control group and which is the experimental group. Put the student's room number next to his name. Number the students' names on the roster from 1 through 34 and place asterisk after the names of the 10th, 20th, and 30th students. The dentist will re-examine these students, consequently they will be out of the room a little longer than the other students. These students need two mark-sense sheets. Place an asterisk next to their names on the back of the second mark-sense sheets.

6. Approximately eight students from the two classrooms will go for the exam at the same time returning individually to the classroom upon completion of the exam. It is anticipated that each student will be out of the classroom approximately ten minutes. They will be called for by a person assisting in the examination.

7. The teacher gives the student permission slips to the person who takes the children to the exam room.

8. The teachers should not tell the students whether they are or are not participating in the program. The teacher should tell the students that they will be mixed with another class during the dental exam. She should tell the students that the dentists will only be looking in their mouth and that the only instrument he will be using is a mouth mirror.

9. Send the rosters to the principal. The dentist will get these from the principal at the time he arrives to do the dental exam.

DENTAL HYGIENIST

1. Be sure that the students are in the order that their name appears on the roster before staining their teeth.

2. Pour disclosing solution into a cup--using one cotton swab/ student. (The solution in the cup is used until all gone. Do not change for each student.) Use full strength

3. With the cotton swab, stain only the following surfaces of these teeth:

   Maxillary 1st molar
   Maxillary right central labial
   Maxillary left 1st molar
   Lingual mandibular left 1st molar
   Labial mandibular left central
   Lingual mandibular right 1st molar

   If one of these is missing, not fully erupted, more than half decayed, or covered with a crown, stain the nearest fully erupted tooth in the same quadrant. Where possible go to the tooth posterior.

   Saturate the cotton swab with disclosing solution and only touch the surface of the tooth to be stained at the gum line on the maxillary and at the occlusal of the mandibular. Let the disclosing solution spread over the tooth surface.
   Be sure not to disturb the plaque on the tooth. Try to be as uniform as possible in the disclosing.

4. Direct student to dental hygiene assistant to complete the staining.

DENTAL HYGIENIST ASSISTANT

1. Prepare the disclosing solution as follows:
   Place 10 drops of Disclosing Solution in 2 tablespoons of water in a paper cup.
2. Place about 2 tablespoons of plain water in another cup. This is for the students to rinse with.
3. Make up as many of these as possible at a time so that they will be ready to hand to the students as soon as the dental hygienist has stained their teeth.
4. Have the students first swish the Disclosing Solution around in their mouth for 30 seconds. They spit this back into their paper cup.
5. Have the students then swish the plain water around in their mouth for 30 seconds. Again they spit this back into their cup.
6. Have paper towels ready to give to students if they need to wipe their lips.
7. Dispose of liquid and cups.
8. Send student to the recorder.

RECORDER

1. Takes scan sheet from student.
   Marks 1 for plaque when the dentist calls out #1.
   Leaves blank for no plaque when the dentist calls out the number "0".

2. The recorder must use a #2 pencil.

3. The recorder verifies that she has the mark sense sheet for the student being examined.

4. The recorder collects all scan sheets and gives them to the dentist at the end of the session.

STUDENT GO-GETTER

It is critical that this person be flexible and use common sense to ensure that the examiner's time is not wasted and that the student's time out of the classroom is minimal.

This person obtains the class roster from the dentist and brings approximately 8 students at a time to the room where the examination takes place and also brings the permission slips for the two rooms that match the roster.

Students should be quiet and orderly so that the recorder will be able to hear the dentist.

After the individual has received the examination that person returns directly to his classroom.

Do not wait until all the group has completed the dental examine before getting the next group of students.

When you go to get the next group of students depends on 1.) how far away the classroom is from the examining room and 2.) quickly the dentist is doing the exam.

SUPPLIES

TOTAL		NUMBER PER DENTIST
9,000	Paper Cups	1,285
	Liquid Disclosing Solution	7
5,000	Swabs	714
4,500	Tongue Blades	642
7 Bottles	Cold Sterilization Solution	1
	Mouth Mirrors	
	Probes	
	Headlamps	
	Paper Towels	
	Containers for Sterilization	
	Pitcher - Milk Carton	
2,240	Evaluation Forms	320
	2 oz measure/ tablespoon	
	Watch with second hand	
	No. 2 yellow pencil	

APPENDIX F

Educational Progress

(Showing by region, by grade, pretest
and posttest statistics)

Each on a separate page,

Regions I - VI (XF 1 - 6)

Regions IX - XVI (XF 7 - 14)

Regions XVIII - XX (XF 15 - 17)

(Regions VII, VIII, and XVII did not participate in TATTLETOOTH.)

TABLE XF1

REGION I

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	81	3.864	1.255	83	5.229	1.194	1.365	11.396**
1	61	6.508	1.688	56	10.268	2.153	3.760	16.226**
2	55	6.673	2.203	51	11.098	1.497	4.425	18.651**
3	83	8.904	2.873	61	12.885	3.710	3.981	10.545**
4	78	9.859	2.202	70	12.000	3.367	2.141	6.709**
5	56	10.089	2.765	70	11.857	2.989	1.768	5.502**
6	30	9.900	2.833	0	----	----	----	----
Jr High	38	10.737	1.996	35	15.086	2.161	4.349	14.176**
Sr High	22	12.955	2.299	16	12.625	3.202	-.330	.520

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF2

REGION II

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	16	4.250	1.291	16	5.625	1.366	1.375	4.676**
1	20	8.000	1.806	23	8.348	2.246	.348	.893
2	34	9.350	1.015	35	12.086	2.584	2.736	7.635**
3	18	9.500	3.678	19	11.211	2.819	1.711	2.453*
4	14	9.071	2.586	15	10.533	2.356	1.462	2.525*
5	24	13.583	3.175	24	15.875	2.112	2.292	4.450**
6	48	11.417	2.967	0	-----	------	------	----
Jr High	0	-----	-------	44	12.841	2.420	------	----
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF3

REGION III

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	54	4.333	1.374	48	5.938	1.391	1.605	9.342**
1	36	5.525	2.408	22	8.864	3.124	3.336	6.371**
2	51	7.451	2.186	52	9.885	2.931	2.434	7.432**
3	71	9.929	2.920	68	12.706	3.129	2.777	8.619**
4	69	10.623	2.875	61	14.377	3.056	3.754	11.432**
5	71	10.451	2.562	42	11.143	2.465	.692	2.231*
6	49	10.204	2.685	50	13.800	2.286	3.596	11.343**
Jr High	41	10.878	2.347	36	11.722	2.537	.844	2.394*
Sr High	21	11.143	3.071	0	-----	-----	-----	-----

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF4

REGION IV

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	66	5.303	1.425	65	6.185	1.159	.882	6.130**
1	75	6.293	2.741	75	10.200	2.105	3.907	15.267**
2	93	8.968	2.352	85	10.753	1.822	1.785	8.948**
3	90	10.756	3.919	85	13.918	2.512	3.162	9.635**
4	89	12.270	3.103	87	15.230	2.523	2.960	10.962**
5	91	12.582	2.971	77	13.883	2.734	1.301	4.725**
6	60	12.483	3.034	57	14.474	2.904	1.991	5.802**
Jr High	89	12.067	2.692	78	13.628	2.644	1.561	6.034**
Sr High	74	11.270	2.301	61	12.803	2.323	1.533	6.105**

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF5

REGION V

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	0			0				
1	0			0				
2	0			0				
3	103	13.427	3.429	67	15.269	2.990	1.842	5.909**
4	42	12.286	2.472	17	13.941	2.727	1.655	3.153**
5	86	14.488	2.190	0	-----	-----	-----	-----
6	0			0				
Jr High	0			0				
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF6

REGION VI

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	40	5.150	1.494	58	5.207	1.214	.057	.303
1	60	5.783	2.230	54	9.222	2.835	3.439	11.079**
2	54	8.000	2.168	50	11.060	2.035	3.060	11.877**
3	48	10.125	3.716	44	13.727	2.628	3.602	8.360**
4	55	11.927	3.120	58	12.638	3.360	.711	1.865*
5	58	11.052	2.445	51	12.588	2.499	1.536	5.160**
6	0			0				
Jr High	0			0				
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF7

REGION IX

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	62	5.097	1.201	55	5.673	1.552	.576	3.433**
1	28	7.357	2.018	0	-----	------	-----	-----
2	55	9.509	1.484	49	11.020	2.175	1.511	6.128**
3	25	14.600	2.309	49	14.796	5.470	.196	.316
4	56	14.482	2.435	72	14.611	2.915	.129	.436
5	52	13.250	3.342	66	14.061	2.385	.811	2.206*
6	86	13.337	2.831	49	15.367	2.079	2.030	7.624**
Jr High	0	-----	-----	53	11.302	2.707	-----	-----
Sr High	45	11.444	1.995	0	-----	-----	-----	-----

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF8

REGION X

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	0			0				
1	0			0				
2	0			0				
3	0			0				
4	39	11.697	3.416	40	13.475	2.276	1.778	5.573**
5	77	12.429	3.354	70	12.971	3.288	.542	1.581
6	197	11.193	2.831	144	12.326	3.166	1.133	5.315**
Jr High	75	11.027	2.908	59	12.559	2.854	1.532	4.875**
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF9

REGION XI

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	120	4.725	1.806	95	6.600	.995	1.875	14.343**
1	58	9.397	2.2[illegible]0	66	11.273	2.087	1.876	7.633**
2	72	10.736	1.928	46	12.043	1.764	1.307	6.013**
3	79	13.253	3.101	76	14.711	1.020	1.458	4.981**
4	81	13.938	2.556	75	14.413	2.895	.475	1.715
5	69	13.725	2.817	69	15.681	2.200	1.956	7.110**
6	78	11.641	2.673	73	13.041	2.648	1.400	5.170**
Jr High	75	12.040	2.202	52	13.539	2.601	1.499	5.204**
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF10

REGION XII

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	65	3.554	1.237	62	5.758	1.255	2.204	15.931**
1	68	6.324	1.889	65	9.227	1.798	2.953	14.775**
2	73	6.808	2.415	72	7.792	2.227	.984	4.073**
3	0			0				
4	67	9.881	2.772	49	10.959	3.155	1.078	2.969**
5	68	11.088	3.089	46	11.957	2.859	.869	2.452*
6	0			0				
Jr High	0			0				
Sr High	40	11.125	3.006	34	12.765	1.876	1.640	4.336**

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF11

REGION XIII

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	41	4.171	1.162	19	5.947	.707	1.776	11.619**
1	38	6.421	2.488	32	10.281	1.481	3.860	12.048**
2	41	8.463	2.110	34	9.647	2.839	1.184	3.056**
3	42	10.881	3.920	17	9.882	4.294	-.999	1.209
4	64	11.234	3.231	48	11.625	3.279	.391	.996
5	86	11.058	2.920	73	12.452	3.096	1.394	4.611**
6	80	11.188	2.797	67	13.388	2.713	2.200	7.715**
Jr High	99	8.889	2.010	60	11.067	2.313	2.178	9.167**
Sr High	76	10.868	2.511	27	11.741	2.105	.873	2.696**

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF12

REGION XIV

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	97	4.948	1.327	87	5.506	2.162	.558	3.034**
1	61	7.459	2.913	62	10.000	3.289	2.541	7.224**
2	47	7.979	3.352	43	10.326	1.845	2.347	6.048**
3	63	12.693	2.682	63	14.492	1.391	1.799	6.671**
4	48	12.771	2.692	78	12.910	3.113	.139	.422
5	164	12.994	3.037	22	11.682	3.286	-1.312	2.235*
6	111	12.478	2.442	107	13.935	2.596	1.457	6.807**
Jr High	0			0				
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF13

REGION XV

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	56	4.929	1.748	59	6.593	1.300	1.664	8.891**
1	69	7.058	1.839	69	8.739	2.446	1.681	7.087**
2	71	8.944	2.342	47	10.851	1.782	1.907	8.004**
3	71	12.070	3.957	43	15.070	1.165	3.000	7.735**
4	61	11.853	2.713	55	13.473	2.905	1.620	4.924**
5	62	13.194	2.974	57	13.737	2.919	.543	1.607
6	65	11.231	3.711	61	13.016	3.186	1.785	4.618**
Jr High	67	11.851	2.595	66	13.273	2.563	1.422	5.087**
Sr High	30	9.433	2.661	29	11.379	3.353	1.946	3.853**

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF14

REGION XVI

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	0			0				
1	0			0				
2	12	7.583	1.977	12	9.667	2.023	2.084	4.082**
3	35	11.571	2.584	35	15.371	2.249	3.800	10.523**
4	40	12.875	2.875	41	14.024	2.797	1.149	2.914**
5	33	12.939	3.020	54	14.222	2.873	1.283	3.035**
6	26	12.385	2.174	46	13.674	2.789	1.289	3.480**
Jr High	0			0				
Sr High	0			0				

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF15

REGION XVIII

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	45	4.667	1.430	33	5.788	1.346	1.121	5.643**
1	65	5.892	1.900	65	10.892	1.551	5.000	25.892**
2	65	7.523	2.398	63	10.333	2.597	2.810	10.132**
3	50	10.300	3.030	43	13.767	2.573	3.467	9.519**
4	91	10.967	2.656	70	12.800	2.780	1.833	6.686**
5	76	10.645	2.799	71	12.493	3.372	1.848	5.659**
6	65	9.385	2.498	42	12.714	2.761	3.329	9.748**
Jr High	56	11.786	2.859	73	12.096	3.010	.310	.952
Sr High	83	11.265	2.317	71	12.944	2.305	1.679	7.178

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF16

REGION XIX

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	62	4.225	1.420	60	5.600	1.328	1.375	8.833**
1	68	7.588	1.970	58	9.345	1.806	1.757	8.352**
2	68	7.647	2.468	68	9.588	1.741	1.941	8.120**
3	75	10.227	2.840	42	10.810	3.450	.583	1.381
4	60	10.467	2.684	56	12.071	2.789	1.604	5.033**
5	96	11.021	3.464	76	13.158	3.437	2.137	6.427**
6	78	12.180	2.448	46	14.109	3.005	1.929	5.490**
Jr High	104	10.654	2.786	91	12.066	3.083	1.412	5.282**
Sr High	50	10.980	2.218	45	12.622	2.259	1.642	5.698**

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk

TABLE XF17

REGION XX

Grade	Educational Criterion							
	Pre-test			Post-test			Difference between means	t* ratio
	N	Mean	Standard Deviation	N	Mean	Standard Deviation		
K	107	4.700	1.325	110	5.927	1.241	1.227	11.231**
1	126	7.952	2.387	128	10.539	2.538	2.587	13.377**
2	99	9.192	2.393	99	10.394	2.373	1.202	5.678**
3	94	14.936	2.825	99	15.707	4.015	.771	2.386*
4	95	13.937	2.483	93	15.161	2.508	1.224	5.379**
5	117	14.154	2.585	115	14.704	2.714	.550	2.525*
6	113	12.850	2.746	109	14.541	2.519	1.691	7.641**
Jr High	66	11.788	3.126	31	14.194	2.549	2.406	6.364**
Sr High	24	12.583	2.145	0	-----	-----	-----	-----

Significance at 1% (.01) level = **
Significance at 5% (.05) level = *
Significance at a level lower than 5% = no asterisk